

# Authentic

SCIENCE FICTION MONTHLY 1/6

No 39



This month's  
FEATURED NOVEL

**SUBTLE  
VICTORY**  
by E.C. TUBB

... from Earth's new satellite.  
Man sets out in his conquest  
of space ...

Short stories by **CHARLES ERIC MAINE • JOHN CHRISTOPHER**

VOLUME I No. 39  
ONE SHILLING and SIXPENCE

# Authentic

SCIENCE FICTION MONTHLY

Editor:  
H. J. CAMPBELL  
F.C.S., F.R.H.S.,  
M.S.C.I., F.B.I.S.

Art Editor:  
JOHN DERRICKS

Cover by  
DAVIS


Illustrations by  
DAVIS, GERALD

	Page	
<i>Full-Length Story</i>		
SUBTLE VICTORY....	4	by E. C. Tubb
<i>Short Stories</i>		
HIGHWAY i...	74	by Charles Eric Malne
BLEMISH...	112	by John Christopher
TRANSITION...	126	by David Wilcox
Editorial.....	2	
Brainwaves....	72	
The Solar System (Jupiter)...	123	
Now Consolidate...	124	
Book Reviews...	137	
Projectiles...	139	
From Earth to the Stars...	Cover iv.	

Printed in Great Britain  
and Published by Hamilton  
& Co. (Stafford) Ltd., 1 & 2  
Melville Court, Goldhawk  
Rd., London W.12, England

Authentic Science Fiction is a periodical published on the 15th of each month. This issue is No. 39, and has a publishing date of November 15th, 1953. The contents are copyright and must not be reproduced in whole or in part except with the written permission of the publishers. Science-fiction manuscripts are invited but in all cases return postage and cover should be enclosed. No responsibility is accepted for damaged or lost MSS.

All characters in these stories are fictitious and imaginary and bear no relation to any living person.



# H. J. CAMPBELL

## *Writes...*

In a temperature of 100 degrees, and surrounded by a thousand American science fiction fans I am writing this column from Philadelphia, where I am attending the Eleventh World Science Fiction Convention.

Every big name in American Science Fiction is here. The many celebrities I have met include Forrest J. Ackerman (Mr. Science Fiction), whose name has frequently appeared in our pages. The famous natural historian and rocket expert, Willy Ley (the Convention's guest of honour), who gave us an address full of intriguing fact and fascinating fantasy. Sprague de Camp, E. Everett Evans, Lester del Ray and Isaac Asimov are all here among a glittering cast of SF stars. And I must also mention Bea Mahaffey, editor of *Science Stories*, who swept London fandom off its feet when she attended our convention at Whitsun this year.

I came to this World Convention to hold aloft the banner of British Science Fiction and particularly *Authentic*, and I had my opportunity when I opened the second day's programme with a talk on Britain's fans, magazines and writers. I struck a note of optimism, which I

hope everyone at home will feel was justified, as I gave a picture of the industry and enthusiasm of all those fans, authors, publishers and club organisers who are working to put British science fiction well and truly into the forefront.

I was interested to hear Tetsu Yano, a Japanese representative, speak on his country's enthusiasm for good science fiction; and among other first-rate and informative speakers was Philip Jose Farmer on "SF and the Kinsey Report," a serious and thoughtful study which was well appreciated by the audience.

Science Fiction as a career came under discussion, led by the opinions of Sprague de Camp, Lester del Ray and Lloyd A. Eshbach. The three speakers were agreed that science fiction did not hold much promise for the professional man, and I was personally disappointed that the financial angle was considered of such over-riding importance.

The general discussion that followed the main speakers included contributions from such SF personalities as Harlan Ellison, E. Everett Evans (one of whose short stories appeared in ASF No. 31), Bob

Tucker and Frank Robinson, who all told the same story of the lure of professionalism for the SF fan.

The subject of "Women in Science Fiction" was introduced at a later discussion by Bea Mahaffey, Evelyn Gold, and Katherine Maclean. There was general agreement that there was a definite place for the fair sex in SF, among readers, fans, and authors, and that science fiction needed their influence.

My proposal that London be the site of the next World Convention was seconded by Rita Khroné, and I am pleased to say that London got sixty-one votes, though well behind such American cities as San Francisco and Cleveland.

In the future I am sure that there is plenty of opportunity for non-American cities to win the distinction of staging this annual get-together of the world's fans. I hope that ASF readers in Britain, the Commonwealth and Europe will be coming strongly forward with a claim for their cities. In this way we can play our part in making Science Fiction truly international.

Of necessity, this editorial has only been able to convey a glimpse of the many facets of this year's Philcon. In my next issue I hope to devote more space to what was undoubtedly the science fiction event of the year.

★

And now to this month's issue. I think you are going to like E. C. Tubb's long story, *Subtle Victory*. This writer is making himself felt among magazines and publishers, and this story is typical of his work—well-thought-out and well presented. He entertains but he makes us think.

In *Highway 1*, an unusually intriguing story with an unusual title, Charles Eric Maine explores the

dimensions in a startling but light-hearted way. We were not surprised to hear that an American magazine bought this story a few weeks after we did.

John Christopher likes to point a moral, and he does so in *Blemish*, a delightful illustration of insanity simulating the normal . . . and another reminder that humanity needs to laugh at its own antics sometimes, or lose its perspective.

David Wilcox is this month's successful amateur writer—his story *Transition* is our third competition winner, and I have a hunch that this is not David's last appearance in print.

After four more issues of ASF the series on the Solar System must come to an end. A regular feature will take its place in our pages—but will that feature be the one that *you* want to see in ASF? If you have any ideas please write. But don't suggest a course in advanced astronomy, will you? We have to be practical!

★

1953, it seems, is fated to be a year of change and progress for *Authentic*. We began with January's New Look—a new cover design, additional short stories, new departments. In our July issue we began our series of authentic space covers, resulting in 100 per cent. welcome from our readers, and at the same time a new easy-to-open binding was introduced.

Last month we saw a complete change-over in inside layout, with the provision of 10 per cent. more wordage.

And now this month. Did you recognise *Authentic*? We think it is a substantial improvement, and more truly reflects the individuality that is *Authentic*.

What do you think?—H.J.C.

# Subtle Victory

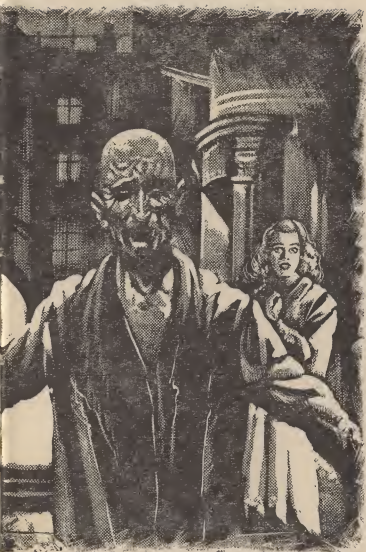
E.C. Tubb

*The natives were primitive, tattooed like savages—but their minds were a step ahead of their rulers.*

He walked into the tavern at midnight, a tall man, incredibly thin, shabbily dressed, with a skull-like head and two black thumbprints for eyes against the white dough of his face.

He stood, swaying a little, his thin streak of a mouth tight-pressed, almost comic, almost ludicrous, but somehow utterly serious and totally disturbing.

An odour hung around him, the smell of a dozen different gutters, the taint of alien soil, and a thin, sickly sweet scent, like a



*Illustrated by Davis*

tomcat, an eucalyptus tree after a warm rain, like the smell of rotting flesh.

For a moment he stood, staring directly before him with his dull eyes huge against the bone-whiteness of his face, and as he stood, the normal sounds of midnight revelry died, died, and made room for something from the stars, alien, unknown, and yet at the same time familiar and horrible.

Men stopped drinking and stilled their raucous laughter. Women stared, shuddered, then stared again, forgetting to worry about their make-up, their escorts, or their rent. In one corner a juke box, previously ignored, boomed with strident melody, trying hard but waging a losing battle with the muted thunder of the space ships blasting from the nearby rocket port; then he moved, and the spell was broken.

Laughter rilled from painted mouths and twisted lips. Jowls shook and paunches quivered, and the tinkle of

ice and spoons and pendant jewellery rose again in the frenzied noise of make-believe-we're-having-a-good-time. Smooth shaven, well-dressed men with fixed smiles and bulging muscles moved purposefully through the crowd. They nodded, apologised, slipped deftly beside the stranger and reached for his skeleton thin arms.

Somehow they just missed touching him.

He moved. Like an animated collection of bone and skin and rag, he moved. Stiffly, painfully, as if operated by invisible wires handled by a clumsy puppeteer, he plunged towards the bar, his dull eyes unblinking in his bone-white face, his arms swinging as if made of wood, his legs jerking as if he had forgotten that he had knees.

He bumped into a table. He bumped into a fat man and then he bumped into a thin woman. He didn't seem to notice the obstructions, but veered a little, his arms and legs still moving in the

same deliberate rhythm, and so he came to the bar.

And Jeff Walker stared at him in horror.

Jeff Walker, thirty years old, tall and supple with the bloom of perfect health, a glass in his hand and money in his pockets, killing time before his next assignment. He stared at the thing pressing against the edge of the bar and felt his stomach twist and writhe in shocked understanding.

"Commander Peters," he blurted. "When did you arrive?"

No answer. The thing still leaned against the bar, his dull eyes fastened on the rows of bottles and his claw-like hands trembling as they rested on the polished woodwork. A man slipped between Walker and the commander. A smooth individual, a smiling man who had forgotten how to laugh. He rested one hand on a thin shoulder and muttered quick words.

"Come on, tramp. Outside."

He might have been addressing a corpse.

A faint red tinge touched the smooth cheeks and the hand tightened, the thick fingers grinding against bone.

"You heard me, bum! Outside!"

"Wait!"

Jeff stepped between them, knocking the man's hand away from the skeleton shoulder. He smiled at the flash of anger in the bouncer's eyes and jerked his head.

"Beat it! This man is a friend of mine."

"Friend?" The bouncer wrinkled his nose and hesitated, his big hands flexing at his sides.

"You heard me, or would you rather this place be boycotted by spacemen?" Jeff smiled and coolly beckoned to the bartender. "Whisky—bring a bottle."

"Yes, sir."

Deftly Jeff stripped off the seal and poured a full five ounces of the smokey fluid



into a glass. He set it before the white-faced man, and snapped his fingers before the staring eyes.

"Drink up, commander. Drink deep."

Obediently the man lifted the glass, tilted it, set it down empty, the liquor seeming to have less effect than pure water. Jeff poured a second five ounces, then turned to the bouncer.

"Listen, stay here, keep feeding him liquor. I'm going to make a videophone call, and I want you to look after him while I've gone."

"Yeah?"

"Yes." Impatiently Jeff reached for his wallet and flashed his identification. "Now remember, don't excite him, don't deny him anything he wants, and above all, don't hurt him."

"Sure," the man said sarcastically. "I'll wet-nurse him for you—like hell!"

"You'll do it and like it, or I'll have you for obstructing the law." Jeff stared at the man, his eyes narrowed against

the firm hardness of his face.

"Maybe you didn't understand. I'm telling you, not asking. That man is now under the protection of the government. I'm going to get an ambulance. All I want you to do is see that none of your friends decide to toss him into an alley."

"I don't like it," said the man. "He stinks."

"So what?"

"So the boss won't like it. The customers don't like it. *I* don't like it."

"Then lump it," snapped Jeff, and turned away.

Silently the thing that had once been a man lifted his glass, emptied it, set it down and stood waiting.

Irritably the bouncer reached for the bottle.

It took ten minutes for the ambulance to reach the tavern and in that time more than half the revellers had glanced at their watches, stared at the parody of a man at the long bar, then headed for the night and the clean stars.

Ten minutes changed a roaring tide of human merriment into something like a wake, and with the emptying of the tavern the tall thin man at the long bar took on a new and subtle importance.

Jeff nodded to the bouncer, now white-faced and twitching. He glanced at the two empty and one freshly opened bottle, and turned to the man who had entered with him.

"Was I right, doc?"

The doctor grunted, sniffed at the sickly sweet odour, touched the dead-white skin, stared at the dull eyes, and bit his lips.

"Looks like it, Jeff." He thumbed his hat back on his head and frowned. "How did he get here? You know him, you say?"

"Yes. Commander Peters. The last time I saw him was on Venus. He was in command of the garrison there, but that must have been six months ago."

"I see. Was he like this then?"

"No. Nothing like it."

Jeff stared at the emaciated figure of the commander and shuddered. "Peters was about thirty-five, not over muscled but in good condition, a regular soldier and proud of his appearance."

"Something's altered all that," said the doctor. He sighed, glanced around the empty bar, and looked at the dead men on the counter.

"Did he drink all this?"

"Yes. I thought it best to feed him alcohol. From what I saw he'd reached critical point, ready to cut loose at a wrong word. The only thing I could think of was to slow his reactions with whisky."

"You did right," said the doctor. He shuddered as he stared at the dead eyes in the bone-white face. "We were lucky at that. If you hadn't been here, there's no knowing what might have happened." He sighed and jerked his head at the twitching bouncer.

"You'll find an ambulance outside. Tell the men to bring in the stretcher."

The smoothly shaven man turned away, then hesitated, his eyes fastened on the tall thin figure standing against the long bar. "What's the matter with him, doc?"

"Don't you know?"

The bouncer swallowed and shook his head. "I've seen drunks and I've seen dopes but I've never seen a thing like that."

"You have now," snapped Jeff curtly. "Get the stretcher." He waited until the man had left the room, until they were all alone against the long and deserted bar, then he whispered quietly in the doctor's ear:

"A new one?"

"Looks like it," murmured the doctor. "Hard to tell just yet, but he doesn't show the usual symptoms. That smell—I don't like it. And look at his eyes, his skin; a man shouldn't go like that within six months."

"Shall I order a quarantine?"

"Yes. Seal the place and track down everyone who

was here tonight. I don't think it's an exotic disease, but we can't be too careful." He glanced up as two men entered bearing a folded stretcher. "Right, be careful with him, but don't let him touch you more than you can help."

"Leave it to us, doc," grunted one of the men competently. Together they opened the stretcher, rested it on the floor, stood one to each side of the silent man at the bar, and with one concerted motion lifted him and placed him on the stretcher. Rapidly they locked the retaining bars, and picking up their burden, left the room.

The doctor nodded to Jeff, sighed again, and followed them out.

"You going to lock the place?" A small man with a worried expression stood beside Jeff. He wore a faded carnation in the lapel of his dull black jacket and his breath carried the subtle odour of chlorophyll.

"For a while," said Jeff.

He stared at the man. "You the owner?"

"I bought the place a month ago; now this has to happen." He snapped his fingers at the bartender.

"Drink?"

"Whisky."

"Bring a bottle," ordered the small man. He gnawed at his lower lip. "Must you lock me up?"

"What else?" Jeff shrugged, feeling a slight sympathy for the man, yet knowing there was no alternative. "It won't be for long, just until we decide whether or not that character had a contagious disease. You can speed things up if you'll let me have a list of all the people here tonight."

"How can I do that?" The small man poured golden fluid from the bottle the bartender set before him and glanced up at Jeff. "Some of them I know, the regulars, some of the girls, but the rest are drifters. Spacehands from the rocket ships, sightseers touring the space port. I

couldn't even guess who comes in here at night."

"That's a pity." Jeff sipped at his glass and rolled the liquor around his tongue. "You'll just have to pray that we don't find anything serious."

"It's a hard life," grumbled the little owner. "What with one thing and another, the protection I have to pay, the graft, and now a zombie comes in and scares all the customers away." Disgustedly he swallowed his drink and gestured towards the bottle. "Help yourself. I've got things to do."

Jeff nodded, watching the small man as he walked across the floor towards his office. The juke box boomed, then abruptly fell silent as someone cut the power, and the muted thunder of a distant rocket ship echoed in the silence.

It was all wrong, thought Jeff tiredly. Such things shouldn't happen here. On Venus, yes. On Mars, yes. On the raw frontiers of space where men lived on a razor's

edge and rubbed shoulders with the unknown, such things could happen, but not here, not on snug little Earth.

He tilted the bottle, watching the golden liquor gurgle from the narrow neck and into his glass, thinking of how Peters had swallowed whisky as if it had been water. The bartender moved along the counter towards him, swabbing and clearing away the empty glasses, his broad face impassive and expressionless.

"Finished, Mac?"

"Not yet." Jeff pushed the bottle towards the bartender. "Have one."

"Thanks." Deftly the big man poured a shot and lifted the glass. "Mud in your eye."

"Have another?"

"Thanks, but not this time." Silently the big man swabbed the bar, then glanced at Jeff with calculating eyes.

"You knew him, didn't you?"

"Who?"

"The lunk who came in here, the one who scared away our trade."

"Yes."

"I thought so. Standing behind a bar the way I do a man can see most of what goes on. I could see that you knew him, and you weren't the only one."

"Not the only one?" Jeff forced himself not to display his excitement. "Someone else knew him?"

"Yeah. A spaceman by the look of him, a stranger here, but he knew the lunk all right. I watched him. For a moment I thought that he was going to pass out, then he left."

"A stranger, you say?"

"That's right. We get them in here all the time."

"I see." Jeff slipped from his stool and nodded at the bartender. "Finish the bottle. Goodnight."

"Goodnight."

Silently the big man swabbed the bar. He rubbed and rubbed, and when Jeff left he was still rubbing.

But there are some things, Jeff thought, a man just can't rub away.

Memories for example.

The memory of a tall, straight soldier, a man who had dedicated his life to the military, and as such considered personal appearance as of prime importance. Peters was such a man. Once he had been immaculate, his uniform neat and spotless, the insignia bright and shining. Now . . . ?

A tramp. A shattered parody of what he had once been, stinking with the filth of assorted gutters and smelling of rotting flesh and stale sweat. Something had happened to him, something within the past six months, something which had turned him into a travesty of a man.

Jeff wondered what that thing had been.

Disease? Maybe. The colonies were still too new, the frontiers still too wide for everything to be known about them. Perhaps some new virus, some germ or bacteria, a new affliction.

Drugs? Maybe, but Peters hadn't been the kind of man to experiment with drugs, and yet men did strange things

when isolated on the fringe of civilisation.

Jeff shrugged.

Tomorrow would tell.

THE DEPARTMENT of Exotic Drugs and Diseases occupied a small section of one of the wings of the main hospital, and fought a constant battle against ignorance, lack of funds, vested interest, and plain hate.

Passengers from the space ships didn't like to be vetted before being allowed to leave the rocket port. They didn't like to have their souvenir plants and extra-terrestrial organisms confiscated, and they didn't like the strict search for forbidden drugs. Importers chafed at the necessity of obtaining clearance certificates for their cargoes of alien fruits, bulbs, spices, and other goods, and no one in living memory had ever admitted that the cold logic behind enforced quarantine had something to commend it.

Jeff thought of these things as he walked across the con-

crete surrounding the huge hospital. As an established member of the department he had met his full share of contempt, hate, disgust, and cold arrogance. He had even met bribes, offers of graft, and vague promises of favours to come with the same easy indifference.

He knew just what could happen if the department ever relaxed its continual vigilance.

A man nodded to him as he entered the hospital. A nurse smiled at him, and a fat importer scowled as he passed. Three worried looking people glanced up from where they sat on a bench against a wall, and a little girl turned shyly to her mother. Then he stood in the outer office and waited impatiently while the receptionist operated switches on her inter-com.

"Room five thirty-three," she smiled. "The doctor left word that you were to go right in."

"Thanks," he smiled, then jerked his thumb towards the vestibule. "There's a little

girl out there; what gives?"

"Little girl?" The receptionist frowned, then nodded as memory returned. "I remember now. She's here with her mother; they're waiting for the verdict on her father. He contracted a tumorous growth while working on the new project on Mercury."

"Serious?"

She shrugged. "Maybe, maybe not. The results should be here soon. Personally I hope that it isn't. The poor little thing has only seen him once, a short while at the rocket port through the glass barrier before we vetted him." She sighed and operated the electric lock on the inner door. "See you soon?"

"Maybe." He smiled, shrugged, and passed into the main section.

The doctor was waiting for him in five-thirty-three.

He looked tired, his old features lined and grey in the morning light, his eyes red with strain and sheer fatigue. He smiled as Jeff entered the room, and moved away from

the silent figure on the narrow cot.

"How is he, doc?"

"Bad, Jeff, very bad."

"Is it a new one?" Jeff glanced at the limp figure of Peters as he voiced the constant dread of all who worked at Exotic—a new disease, an infectious disease which would sweep through the unresistant population. Slowly the old doctor shook his head.

"I don't think so, Jeff; at least I can't trace any symptoms of malignant organisms, but in a way it is something new."

"Dope?"

"Perhaps."

"Aren't you sure?"

"No." Wearily the old man stared at the silent figure on the white cot. He sighed, and when he spoke it was as if he spoke to himself rather than to the young man at his side.

"From all appearances the man has almost starved to death. He is horribly emaciated. There isn't a vestige of fat left on him, and even his muscular tissue has shrunk to

a point where it is doubtful if he will ever regain full use of his limbs."

"What could have caused that, doc?"

"Starvation. Simple lack of food. Such cases were common enough during the past wars, and even now we stumble across them when a crew has been drifting for a long time in a wrecked rocket ship."

"But Peters wasn't wrecked," protested Jeff. "He was free, at liberty to buy or beg food at any time. How could a man deliberately starve himself almost to death?"

"I know that, but the fact remains, he obviously hasn't eaten for a long time."

"I see." Jeff stepped to the side of the bed and stared down at the ravaged features of the man he had once known. Deliberately he flipped back the single sheet, then hastily replaced it.

"What . . . ?"

"The physical condition?" The old doctor shrugged.



"Another mystery. From the state of him I would say that he has neither taken a bath or even removed his clothes for several months at least. A nail had worked through the sole of his shoe, penetrated the skin, caused a running sore, a sore which had gangrened. I had to amputate the foot. Another two days and it would have been his leg, three days and death would have been inevitable."

He stared down at the hollow cheeks and pasty white face.

"The smell of course was mostly dirt, and sweat, but analysis of the dried perspiration shows definite traces of some alien compound. And whatever it was caused Peters to forget he was a man obviously contained some energising element."

"What makes you say that, doc?"

"If he hasn't eaten for as long as he didn't remove his clothes, then he would have been dead a long time ago. Something has provided suffi-

cient energy to enable him to last this long." The old doctor sighed again and turned away.

"We neutralised the alcohol you fed him, of course, and gave him intravenous injections of glucose, saline, and liquid nutriment."

"Naturally. Will it do any good?"

"Maybe. It's hard to say so soon, but with luck we may be able to pull him through. There's just one other thing."

"Yes?"

"He bears the scars of recent surgery, on his back. It would seem as if someone operated on him, a double operation; once to lift a flap of skin and muscle, and again later the same operation was repeated." The old man stared at Jeff. "What do you make of that?"

Jeff shrugged. "Do you want a wild guess, doc, or would you rather wait and hear all the information?"

"You've uncovered something?"

"Yes. Peters landed at

Tycho station two months ago. I've checked with the military. As usual they didn't want to talk, but I convinced them it was essential that we should know as much as possible. He resigned his commission and returned to Earth, landing as I said, two months ago."

"Resigned his commission? Why?"

"I don't know," said Jeff slowly. "I knew Peters. He was a professional soldier, been at it all his life. Whatever it was made him resign must have been pretty important to him." He bit his lips and frowned down at the silent figure on the bed.

"What made him do it?" he whispered. "What made a man like Peters, a professional soldier, commander of the Venusian garrison, a man with more than his share of pride and ambition, throw up everything he valued and return to Earth to rot in the gutter? Why?"

The old doctor didn't answer, the thing on the bed

didn't answer. For a moment silence hung heavily in the tiny room, then the inter-com hummed its urgent signal.

Irritably Jeff closed the circuit.

"Yes?"

"Who is speaking, please?"

"Walker, Jeff Walker."

"Are you alone?"

"The doctor is with me. Why do you ask?"

"Will you both go at once to the conference room, room seven-eighty-nine. You are expected; do not delay."

The metallic voice fell into silence, and Jeff slowly opened the circuit.

"Conference room!" He stared at the old doctor. "Something must be brewing, something vital. Let's go."

Together they left the silent room. Behind them, on the narrow white cot, the ruin of what had once been a man opened heavy lidded eyes, and stared dully at the painted ceiling. After a long while he closed them again, then rested quietly, lost in the dim regions of his own secret thoughts.

Three men sat in the small conference room. Three men with old tired faces, red sleepless eyes, and deep lines traced in the flesh of their sagging jowls. They were tired, these men, tired with the ceaseless battle to keep Earth sweet and clean, free of alien disease and exotic drugs. They wore their uniforms on their sagging features. The deep lines were their battle scars; their red eyes and agile minds their only weapons.

One of them gestured towards chairs as Jeff and the old doctor entered, then pressed a button, sealing the room from outside interference.

"I'll make this brief," he said in his old tired voice. "You have both seen the man, Peters. What conclusions have you drawn?"

"Dope," said Jeff quietly.

"I agree," said the old doctor. "Though horribly emaciated, he bears no trace of disease."

"Exactly." The man at the head of the table nodded, and

glanced down at some papers spread before him. "You may be surprised to hear that Peters is not the only case of its kind we have discovered. Lately several people have been found in similar condition—wealthy people, some young, the majority old." He leaned back in his chair. "Obviously their condition was caused by dope. The question is—which dope?"

"Peters came from Venus," Jeff said slowly. "He could have contracted the habit there."

"Probably, and yet he showed absolutely no signs of addiction on arrival. The reasons for his resignation were 'Personal and Private.' An officer of his standing is not required to give further information, but I have it on good authority that he had become embroiled in trouble with the natives."

"On Venus?" Jeff glanced at the doctor beside him, then towards the head of the table. "I hadn't known about that."

"There was no reason why

you should. The military have kept it very quiet."

"Could the Venusians have inoculated him with the drug?"

"Probably, but we are getting away from the main point." Deliberately the man with the tired face and the old voice tapped the papers before him. "Peters is not an isolated case. There have been others, which points, I think, to clear evidence of some new exotic drug. Our problem is a simple one—we must find just which drug it is, and just how it arrives here."

"Peters showed traces of surgery," said the old doctor. "It is conceivable that he could have had a container of the drug imbedded in the muscles of his back. If the container were thin and organic, it wouldn't have shown on the X-ray screens at Tycho."

"Admitted. Yet we mustn't forget just what kind of a man Peters was. Is it conceivable that a man such as Peters, the commander of the Venusian

garrison, would have consented to smuggle drugs? And for what? He threw away everything he'd worked for, resigned his commission, returned to Earth—and rotted in a gutter." Slowly the man shook his head.

"We have a mystery here, gentlemen. And mysteries must be solved."

"The other cases," said Jeff suddenly. "Are they confined to the élite?"

"Yes. Mostly leaders of society, statesmen, high ranking officers and diplomats." The man at the head of the table sighed a little. "That is what makes our task both difficult and important. Naturally we could get no admissions from those directly concerned."

"It would seem that the origin of this mysterious drug is on Venus," Jeff said quietly. "Am I to go there?"

"Yes. You will travel on the midnight rocket, and as usual you will have a free hand." He rose and Jeff rose with him.

"You know what you must do. Find the drug, find the men responsible for distributing it, and smash them utterly."

He nodded in dismissal, and Jeff turned, waiting for the release of the electronic lock holding the door.

He felt strangely alone.

HEAT and wilting humidity, a lowering blanket of sullen cloud blotched with the golden radiance of a hidden sun. Tremendous fern trees springing from rich black loam, their great leaves casting a dim, mist-like shadow, giving a false impression of coolness.

Venus!

A place of mystery, a hot-house world, rich, bursting with minerals and medicinal plants. A place of eternal rain and damp, a planet of heat and strength-sapping climate, a world of promise to land-starved Earthmen.

Jeff stood at the foot of the loading ramp, the towering grace of the rocket ship

soaring behind him, the flame-seared dirt of the landing field harsh and gritty beneath his feet. He waited there, staring at the twenty foot high, wire-mesh fence surrounding the field, the huddle of crude shanties hugging the outer perimeter, and the spotted metal of the administration buildings.

It was just the same.

The same mixture of the ultra-modern and the primitive. Rocket ships of gleaming alloy, and shanties of branches and interlaced leaves. The fence, bright and wonderful with the magic of trapped droplets of moisture, and against that beauty the squalor of men too busy making money to remember how to live.

Even the drums were the same.

The throb and pulse of the eternal drums. The half-heard yet always-felt cadence of beaten skin, disturbed membrane, agitated diaphragms. Even the leaves of the great trees added to the

planetary rhythm, whispering as swollen droplets of rain splashed from one to the other.

Drums!

Jeff shrugged, trying not to feel the discomfort of his sodden flesh as his thin clothing clung damply to him. He turned his head as a man strode across the field towards him, and picking up his minimum kit, went to meet him.

"Walker?"

"Yes."

"I'm Carmody, commander here. They told me you were coming."

Jeff nodded, and fell into step beside the commander. Like Peters he was a military man, a professional soldier, tall and rigid, his uniform clean and his insignia bright and shining. He strode briskly across the seared dirt of the field, not saying anything, not even looking at his visitor, a man too conscious of his own importance for the smaller things of life, the gentler things such as consideration

for others. He didn't speak until they had entered his office in the fungi-spotted administration building.

"Earth radioed that you were coming. They asked me to assist you in every way possible, and place myself at your disposal." He sounded curt and very disinterested.

"As commander here I think I should be informed as to the reason for your visit."

"Naturally," said Jeff mildly. He looked around the office, dropping his kit and relaxing into a chair. He smiled at the grim face of the commander, and fumbled in his pocket for a cigarette. The package was a sodden ruin, the tobacco bursting from the thin paper wrappings, and he stared at them with dismay.

"Here." Carmody threw a package towards Jeff. "Untreated cigarettes are useless here. These have a silicon film, to make them waterproof."

"Thanks." Jeff took one and carefully lit it, inhaling

gratefully at the blue smoke. "I'd forgotten."

He hadn't forgotten. No one who had ever been to Venus could ever forget the eternal damp, but the incident had served to break the ice.

"I'm from Exotic," he said abruptly. "Earth couldn't radio you what all this is about because as yet it's pretty secret. Naturally I'm here to brief you as well as to ask your assistance."

"That isn't what they told me," snapped the commander. "The way I heard it was that you're to take over everything but my uniform."

"No." Jeff smiled again and dragged at his cigarette. "I'm not interested in giving orders. I wouldn't even know how, and obviously you are the one man who would be able to help me most."

He stared at the softening lines of the commander's features, and tried not to grin. It always worked! A terse command from Earth, the natural irritation of a man with an overdose of personal

pride and inflated dignity, and then the smoothing down. Carmody would feel grateful to Jeff for not sticking to the letter of the original order, and would be more inclined to help. If he didn't? Jeff smiled behind the thin haze of blue smoke. He still had the original instructions to fall back on.

"What is it you want to know?"

"What happened to Peters?"

"What?"

Carmody's surprise was genuine. He stared at Jeff as if he doubted what he had heard, his little eyes narrowing against the pallor of his face.

"Peters," said Jeff patiently. "The man who was in command before you. You must know him."

"I know him, yes, but you didn't ask that."

"I asked what happened to him?"

"He resigned, and went back to Earth. Why?"

"That's what I want to know."

"I meant, why do you ask?"

Jeff didn't reply. He stared at the smouldering end of his cigarette for a moment, then crushed it beneath his heel.

"Look," he said quietly. "I'd appreciate it if you would get one thing straight. I ask the questions. Now I'm not interested in any code of loyalty you may have, and if you think that you're helping Peters by acting dumb, forget it. This thing is bigger than any one man."

Carmody reddened, his sallow features stiffening with affronted dignity and injured self-conceit, his small eyes glittering with anger.

"You..." he said. "You..."

"Hold it," Jeff warned. "I intended no personal insult, but you haven't seen Peters lately. I have."

"You've seen him? On Earth?"

"Yes."

"I see." Carmody slumped in his chair, his eyes dull and his anger vanishing as he

stared at the calm features of the man before him. "Did he..." He paused, running the tip of his tongue over his lips. "Did he say anything?"

"I ask the questions," reminded Jeff quietly. He stared at the commander. "You were here when Peters was commander, you took over from him when he left. I want to know what made him leave."

"I don't know."

Jeff shrugged, not saying anything, just sitting and staring at the commander. Carmody shifted in his chair and nervously reached for a cigarette.

"He didn't tell me why he resigned," he blurted desperately. "I'm not holding anything back. Peters was a secretive man, and didn't encourage social contacts with his under officers. There were rumours of course, but in a place like this there are always rumours."

"Such as?"

"The usual thing. Women, drink. Some hinted that he



took too great an interest in the natives, a dozen things."

"Did he have any friends here? Close friends I mean?"

"There was one man, a captain; they seemed pretty close."

"Could I see this man?"

"No."

"Why not?"

"He died three months ago," said Carmody quietly, and Jeff could sense the man's triumph in his small victory.

"How?"

The commander shrugged. "A fight I think. He was found at the edge of the wire with a knife in his back, a native weapon. We took punitive measures of course."

"Naturally," said Jeff dryly, "but it doesn't need a native to use a knife, or hadn't you thought of that?"

"I'm not quite the fool you seem to think, Walker. I investigated, but we'd been having trouble with the natives for some time and it was obvious that they were to blame."

"Trouble?"

"Yes. Open cast mining of mineral ores was started six months ago. The natives objected and we had to subdue them."

"I see." Jeff reached for a cigarette and frowned through the veil of blue smoke. "I didn't know that. Why wasn't it reported?"

"It was. First by Peters, then by myself in our routine reports." He shrugged and gestured with his hand. "It was a small matter; we handled it with ease. No need to make it bigger than it actually was." He stared at Jeff. "What has all this to do with your mission here? And incidentally, you haven't told me yet what it is."

"No," agreed Jeff. "I haven't." He leaned forward in his chair, staring at the cultivated sternness of the commander's face. "Someone has been smuggling drugs from Venus to Earth, narcotic drugs of a particularly unpleasant nature. I am here to stop it."

Carmody laughed.

He leaned back in his chair, his mouth open, his small eyes squeezed shut, and the sound of his laughter sent little ripples of irritation racing up Jeff's spine. He waited until the commander had regained self-control, then continued as if there had been no interruption.

"Peters was an addict, and Peters was also a carrier. Does that amuse you, too?"

"What! Peters an addict? I don't believe it!"

"You would believe it if you could see him," said Jeff grimly. "Imagine Peters as you knew him, and then imagine the lowest form of human life possible. That is what Peters has become, dirty, verminous, stinking and rotten. If he lives he'll be lucky; if he regains his sanity it will be a miracle. Do you still feel like laughing?"

"But smuggling drugs from Venus! It's impossible!"

"Why?"

"We search every passenger, every ship, every cargo. They are searched again on

Tycho, and again on Earth. How could contraband get through?"

"It does, but that isn't your concern. Your worry is to help me find out who is doing it."

Jeff rose from the chair and, crossing the office, stared out of the speckled windows. Below him the landing field showed as a raw, seared patch against the yellow-green of the jungle, the high wire fence as a subdued cobweb spun by some enormous spider. The delicate spires of rocket ships glistened with rain as they waited for their loads of processed goods, their ports open, their loading ramps down.

He frowned as a long file of men entered the compound. They carried rifles, the long-barrelled, high-velocity weapons of the garrison, and their faces showed pale and haggard as they marched across the field towards their quarters.

"I see that your soldiers

have been on duty," he said. "Trouble?"

"I told you, the natives had to be subdued when we started open cast mining." Carmody joined Jeff at the window. "Those men have been on guard. We have too much expensive equipment lying about the site for comfort and the operators are touchy about it."

"That must keep you pretty busy," mused Jeff. "What with servicing the rockets, guarding the landing field and settlement, now the mining sites, how do you manage for men?"

"We do our best," said Carmody stiffly. He sighed and wiped his face and neck with a square of damp linen. "We just haven't enough men," he confessed. "If this were a totally military operation it wouldn't matter, but it's not. The garrison is expected to protect every man and piece of property on the planet, and it's getting to the point where we just can't do it. The operators are only

concerned with getting as much as they can while they can. Every spare man is snapped up. I've even known offers made to my soldiers persuading them to desert and work for one of the companies. And what with the trouble with the natives and the pressure from back home..." He bit his lips and let the words die into silence.

"Why can't the operators guard their own property?"

"They are too busy working, and employees are expensive. The military serve as cheap labour."

Jeff was surprised at the bitterness in the commander's voice. He nodded, then opened the window, hoping for a breeze from the wire mesh screen. There was no breeze, and he leaned close to the corroded metal, gulping great breaths of the humid air.

As usual the drums were beating, and automatically his heart began to adjust to the throb and pulse of the murmuring rhythm. Beside him Carmody snarled a curse.

"Those blasted drums! I'd like to smash every one of them!"

"Are they always as bad as this?"

"Lately they've hardly ever stopped. Ever since the trouble six months ago I've had to listen to them and I'm just about getting sick of it." He snorted and slammed shut the window. "What about you, Walker? Are you going to stay here?"

"No. Officially you know nothing about me. I'll go into the settlement, drift around, see what I can pick up. I'll contact you if I need anything, and in the meantime try and remember everything you ever knew about Peters."

He grinned at the commander's relieved expression and picked up his kit. Outside it was darker. It looked as though a storm was coming.

THE SETTLEMENT was filthy. It was dirty with the accumulated refuse of men too busy to tidy up, too lazy to keep their shacks clean, too indolent

to perform the essentials of civilised life.

Heaps of empty containers reared their ugly bulk between the great boles of the fern trees. Scraps of waxed paper, shreds of clothing, discarded rinds of fruits, rotting fragments of food and other garbage. A smell hung over the huddle of crude shelters, the stench of cesspools and poor sanitation, the reek of dirt and decay.

It was the product of civilised men too busy to tidy up, too eager to rape a new world of its wealth and without the time or inclination to bury their own filth. It was an environment where alcohol provided an easy euphoria—and where drugs would find a ready market.

Jeff hesitated in the centre of the huddle, his nostrils wrinkling as the humid air transmitted the unmistakable odour of sewage. He hefted the minimum kit in his hand, then strode across the central clearing, his feet squelching

in the semi-liquid ooze between the shacks.

Noise spilled from one of the largest of the shacks, a steady drone of conversation, the welcome sound of clicking glasses and the discordant shrill of mechanically reproduced music. He recognised the place—it was the trading post, drinking centre, hub of what communal life existed on the planet. Shrugging, he entered the sprawling shelter.

Men stared at him as he thrust past them. Pale men with bleached features and soggy skins. They wore loin-cloths and sandals and most of them had weapons belted around their waists. Knives, high-velocity pistols, even a few short range flare-guns capable of incinerating an animal the size of a large dog with their blast of energy. They stared at him, half-curious, half-indifferent, and he paid them the same attention.

The trader was a fat man with a bulging paunch and hairy chest. He nodded at

Jeff, setting a bottle and glass on the counter and squinting at the coins Jeff tossed on the rough wooden planking.

"New here, aren't you?"

"Just arrived." Jeff tilted the bottle, half-filling the thick glass with the locally distilled spirit. "Know where I can find an empty shack?"

"You working?"

"Not yet." Jeff smiled as he sipped at the crude liquor. "I told you, I've just arrived."

"If you want a job I can fix you up," suggested the fat man. "Plenty of work out at the new site, or maybe you'd like to work here with me." He looked hopefully at the young man. "Good food, plenty of liquor and I'll cut you in to a share of the profits."

"Thanks." Jeff shrugged and stared at the crowded bar. "I'll think about it, but now I need a shack."

"Take your pick." The fat man waved a dirty hand towards the huddle of shelters. "Most of the boys have moved

out to the open cast mining site. They took over a village there, so you're bound to find an empty shack close to the wire."

"I'll do that," said Jeff. "Thanks."

He rested his back against the bar, hooking his elbows on the edge of the counter, and stared at the men clustered in the trading post.

They were all the same.

All had the same expression, the same look of hungry greed, the same nerve-twitching impatience to make their pile and get back home. They drank with a quiet desperation, the sound of their conversation a steady hum, and the talk of each one was a carbon-copy of the others'.

Money!

They thought of nothing else, talked of nothing else; they lived and breathed it, counted it a thousand times in their dreams and schemed a thousand ways in their few leisure moments. Venus was rich! Venus was a world without labour and with products

worth their weight in refined uranium back on Earth.

"I'm getting out as soon as my indenture's finished," said one man to another. "The company aren't going to keep me slaving for a wage when I can pick up a fortune on one trip. Twenty kilos of those rejuvenating spores and I can retire a rich man."

"Why wait?" His listener drained his glass and rapped on the counter. "Why not just walk out and forget your indenture?"

"I hear that the natives are thinking of working for us," said a third. "About time those damn Venis did some work. Why should we sweat while they sit on their rears?"

"I know what I'd like to do," said the first man. "I'd like to round them up from one of their villages and put 'em all to work gathering medicinal plants." He winked. "Naturally they'd turn the plants over to me, and naturally I'd pay for them."

"How much would you pay, Sam?" The fat trader hung his paunch over the edge of the counter as he joined the conversation. "I've a load of trade goods I can't get rid of, beads and junk like that. Those natives ought to be glad to take them."

"Don't need them," said Sam cheerfully. "All I want is a worm so I can make my own liquor. I'd pay 'em off in booze, and once they'd got the craving I'd work 'em to death for a pint a day."

"You've got an idea there, Sam," said the second man excitedly. "What say we try it out?"

"What about the military?" The fat trader stared at the flushed faces of his half-drunken listeners. "Don't forget they're supposed to keep order here."

"That only applies to us," said Sam. "Anyway those soldier boys are so poor that we could buy them off at our own price." He grinned and nudged his companion. "Don't forget they're human

just like the rest of us, and if they don't make their pile now they never will."

The mechanical juke box suddenly whined into silence, and in the hush the pulsing sound of the murmuring drums seemed loud.

"Start that thing up again," yelled Sam, his mouth twisted into ugly lines. "Kill those damn drums! They're driving me crazy."

"We gotta do something about that," snarled a scar-faced man. "We oughta make Carmody do something. How can a man work while that racket pounds in his ears?"

A low mutter of agreement rumbled across the men, and Jeff moved from the bar trying not to show his emotions.

He felt sick!

He felt ashamed of being a man, of being a member of the same race as the men who were despoiling a planet. He thrust between the crowd of near-naked workers and stood for a moment gulping at the heavy air in the clearing.

Thunder muttered low on

the horizon, and a ghost of a breeze stirred the wide leaves of the fern trees. Light flared briefly as jagged fingers of lightning thrust across the sullen clouds, and hastily he squelched through the mire towards the empty shelters close to the wire.

He found a sagging wreck which might help to keep off some of the rain. He kicked the worst refuse into the alley before the open front of the shelter, then slumped down on the leaf-covered bed, and stared at the interlaced leaves of the low roof.

Thinking.

He felt very tired and his muscles ached from unaccustomed exercise after the long weeks of free fall, but worse than that was his reaction to what he had seen and heard.

He frowned, trying to remember whether or not it had been the same on his last visit, then decided that it hadn't. The tempo had quickened. The fever had taken over—get rich quick and to hell with the conse-





quences. There was a different atmosphere, an uglier one, one which was rapidly nearing a critical pitch of violent action.

He didn't like it.

It wasn't so much what they had said; men had always talked wildly, spinning dreams from the tenuous threads of imagination. It was how they had said it. They were serious, they really meant what they said, and from idle talk over a drink in a bar to sudden ugly action was sometimes too short a step.

He shifted uneasily on the hard bed of leaves and woven branches, then reached into his kit for a package of silicon-filmed cigarettes. He inhaled deeply, letting the fragrant smoke stream from his nostrils, and let his thoughts scurry like a trapped rat's within the confines of his skull.

Outside, the clouds had grown darker, the mutter of distant thunder more regular,

merging with the half-heard pulse of the drums.

The drums!

He sat up on the crude bed and narrowed his eyes in startled thought. Drums were natural on Venus, a part of the native life, as much a part as the whining radios were a part of Terrestrial civilisation, but never had he known them pound with such monotonous regularity.

To the natives they were a religion, an integral part of their way of life. He had seen one of their ceremonies, the people sitting in a circle around the drummer, swaying to the rhythm, swaying for hours, their eyes closed, their every sense dulled by the cadence. He knew the theory behind such ritual, the scientific fact that the beat of the heart tends to align itself to the pulse of the drum. More than that he didn't know, but the natives . . . ?

He shook his head. The last thing they could want would be to arouse the Earthmen to hysterical rage. No,

the drums must have another explanation.

He grunted, tugging off his wet shirt and trousers, strapping his weapon belt around the tops of his shorts. The humidity had grown worse and his flesh felt clammy as his own perspiration struggled to evaporate into an atmosphere already overloaded with moisture. The tension in the air made his nerves twitch so that it seemed as if many-legged insects were running over his skin, and he brushed at them before he realised they were a product of his imagination.

Feet squelched close to his shack, two pairs of feet, and with them came the mutter of low voices.

"You sure he's coming this way?"

"Yeah. Ready?"

The first speaker chuckled.

"Get under cover. I'll handle him and make sure that the other one doesn't get away. Hurry now!"

Jeff tensed, then silently moved towards the front of

the shack. He hesitated, undecided whether or not to walk out and betray his presence, or stay where he was. Life on the frontiers was harsh and sometimes it paid a man to mind his own business.

Equally so, violence was everyone's business.

He paused by the open front of the shack, squinting through the fine mist, trying to make out the speakers. A shadow drifted between the shacks, a tall graceful shadow, and watching it, Jeff crouched down behind the flimsy shelter of the woven branches, his eyes narrowed in thought.

The man was a native.

He strode lithely over the muck, his dead-white skin almost luminous in the mist, his snow-white hair falling like gossamer to his shoulders. He was naked but for a loin cloth and sandals, weaponless, and yet he moved with a quiet assurance as if he were among friends instead of men who despised and hated every member of his race.

The trouble was he looked too much like a man.

An animal would have been accepted. A savage, something alien and horrible—that was expected, but the natives weren't like that. They were tall, humanoid, albino—and they regarded Earthmen with a quiet and deadly contempt.

Jeff watched him as he strode over the clearing, his white skin shining and clean, his hair spotless. He watched him, and compared him to the men who were busy ravaging his planet, the big, sweating men, the money-hungry crowd, the smart boys and the work-shy.

It made him feel ashamed.

From somewhere beside him, on the other side of the flimsy wall, he heard the hiss of indrawn breath. Thunder snarled overhead, thunder and the eye-searing flash of lightning. The thunder crashed again—and with it merged another sound.

The spiteful crack of a high-velocity pistol!

And with the sound came the hissing thunder of the rain.

RAIN!

It filled the heavy air with mist, spattering on the mud and drumming on the wide leaves of the fern trees. It choked and clogged, making it almost impossible to breathe and drenching everything inside shelter or out. Mingled with the rain came the thunder and lightning, great peals of stupendous noise and stabbing shafts of brilliance. It filled the universe with elemental fury, raging and blasting with blind torrents of energy.

Jeff crouched by the wall of his hut, his eyes filled with water, his body soaked with it, struggling to breathe without drowning, cringing as he waited for the storm to pass.

As swiftly as it had come, the rain died, the thunder muted, the stabbing shafts of lightning passed on. The storm centre moved past the settlement, and aside from

the heavy mist and streaming fern trees, things were as before.

Almost.

Jeff stared at the crumpled figure lying in the mud, the long white hair caked with dirt, the pale skin soiled and blotched with the twin combinations of mud and blood. He stared at the figure, then slowly reached for his own weapon and took one stride towards the open front of his hut. One stride, then stopped at the sound of voices.

"O.K., Fred?"

"Yeah. Got him just right. I hope the rain didn't drown him."

"Nah." The second voice held utter contempt. "Those things don't drown. You think the other one will be here soon?"

"Sure to be; never known it fail yet. Keep quiet now."

Jeff bit his lips, staring at the feebly twitching figure of the native. Every instinct within him screamed for him to go to the man's aid, and yet the cold certainty that if

he did would earn him swift death, forced him to remain where he was.

He glanced about the hut. Apart from the open front, there was no way out, no way he could escape without making noise, and that would mean the nerve shocking bite of high-velocity slugs. He could do nothing but wait, and so he waited, his hand tight around the butt of his gun.

He didn't have to wait long.

A second shadow moved between the huts, a second native, tall, proud, weaponless, and yet different from the first.

He bore markings on his white flesh, an intricate pattern of black, a subtle interweaving of jet, so that he appeared to be a walking harmony of night and day. A fillet of beaten metal holding a stone of peculiar brilliance contained his hair, the stone centred in the middle of his forehead. He carried a gourd at his waist and he appeared to be very old. Jeff had never

seen a native like him before.

He paused as he saw the crumpled figure in the mud, paused, and stared about him as if looking for something or someone. For a long moment he stood there, tall and calm and radiating a simple dignity, then he moved—and Jeff moved with him.

He sprang, his legs thrusting at the dirt, his eyes darting as he scanned the area, and the pistol in his hand jerking to swift aim. A man stared at him from beside the hut, a pale-faced man with a pistol in his hand. Jeff shot him, then flung himself to the mud as a gun flamed at him from the shelter of a tree.

He wriggled, squirming desperately as he tried to dodge bullets and take aim at the same time. Again the hidden man fired, again, the tiny slugs sending little geysers of mud and water spouting into the air. Jeff fired, swore as his bullet exploded into incandescent vapour against the bole of the tree, then fired again at a flash of white.

The man screamed, jerking from behind the tree, his hand a red ruin and his face a terrified mask. He stared at Jeff, stared at the menacing orifice of the weapon, then ran desperately among the shielding trees, blood dripping from his hand and leaving a red trail over the watery mud.

Jeff watched him go, then climbed slowly to his feet. The strangely marked native still stood by the side of the crumpled man, still calm, still seemingly unperturbed by what had happened, but his eyes as they stared at Jeff were filled with hidden thoughts.

Jeff ignored him. He knelt by the side of the injured man, and gently examined the ugly wound in the white flesh.

"Help me," he snapped. "We must take him to the hospital. Unless he gets attention he will die."

The native didn't move.

"Quickly," snapped Jeff impatiently, then realising that perhaps the man knew no

English, made gestures in pantomime.

Still the man made no move.

"Blast you," snorted Jeff angrily. "If you won't help me I'll carry him myself."

"No."

"What?" Jeff paused as he stared at the tall figure. "So you can speak English. Hurry now, help me get your friend to hospital."

"No."

"Why not? We may be able to save him."

The injured man groaned, stirring a little in the mud, and staring at Jeff with pain-filled eyes. He saw the oddly marked native, and smiled, his eyes brightening with something like hope.

"Your science could not save him," said the tall native with quiet certainty. He stooped over the white body, thrusting himself between Jeff and the injured man. One hand went to the gourd at his waist, the other supporting the dirt-caked head. He said something, his voice a low

murmur, then his hand touched the injured man's lips, and he straightened, staring down at the dying man.

Jeff stared with him, and together they watched him die.

It was a peaceful passing. All pain had gone, all discomfort; it was as if the man had fallen asleep and while still asleep had passed into the great dark. Jeff sighed a little, then reluctantly examined the body of the man he had shot. He was quite dead, his head exploded into internal ruin by the high-velocity bullet, and Jeff looked down at him with a puzzled frown.

"Why did he kill your friend?"

"He did not kill, only wound," reminded the oddly marked native. He glanced at the body in the mud before them. "Why did you kill your friend?"

"He wasn't my friend," said Jeff savagely. "Believe it or not we aren't all the same, and we have our own methods

of dealing with those who forget what they should be."

"Yet we are as nothing to you. Would you kill one of your own for nothing?"

There was a cynical half-tone to the quiet voice and Jeff glanced sharply at the native. "You speak remarkably good English," he said. "How did you learn it?"

"When first men landed here in their ships of fire, they did not then consider us as less than dirt. We welcomed them, for they sought knowledge, and in return they told us those things they considered necessary for us to know. Your language was one such thing. There were others, many others. Of them all, perhaps the language is the most important."

"You think so?" Jeff looked his surprise. "Important, yes, but surely there are other things, the use of metal, medicine, hygiene, a thousand advantages must be gained from contact with a civilisation with a higher technology?"

"Perhaps, and yet we consider your language to be most revealing." The tall native glanced down at the silent body of the Venusian. "My work is done here. I must go, and yet there is something still to do."

"Yes?"

"The man with the injured hand, you know him?"

"No, but I can find him," said Jeff grimly. "He'll be bound to go to the hospital for treatment, and when he does I'll be waiting for him."

"Why?"

"Why?" Jeff stared at the tall man and shook his head. "What's the matter with you? That man and his friend deliberately shot a native. They didn't even kill him, just left him there in the mud and wet while they waited to kill you too. Isn't that reason enough for punishment?"

"Will this punishment restore life to the dead?"

"No, but it will safeguard the living."

"Perhaps, and yet again perhaps not. I think it would

be as well to forget your desire for inflicting punishment."

"Think what you like," snapped Jeff curtly. "You have nothing to do with it."

"It is we that will suffer," said the tall man quietly. "Have you thought of that?"

"You suffer?" Jeff laughed without humour, trying not to show his impatience. "What's the matter with you? Can't you even think straight any more? What has my dealing with a potential killer to do with you? That man is dangerous; he can't be allowed to get away with what he's done, and I'm going to see that he doesn't."

"What has he done?" The tall man lowered his pink, albino eyes as he stared at the tranquil features of the dead native. "He has helped to kill a Venusian. What does that mean to your people? Would the commander of your garrison worry about such a trifle when he himself is responsible for the deaths of over three hundred of us, responsible for the occupying

of four of our villages and the destruction of ten square miles of forest? Would the fact that he shot a native count against the fact that Earthmen are scarce here and that every man is needed for exploiting the new mining site?"

"That has nothing to do with it," snapped Jeff. "This is personal. I can't worry about intangibles, I can only worry about what has happened, and what may happen again."

"One man has died," reminded the tall native gently. "A life for a life. Isn't that what you teach?"

"I don't understand," said Jeff slowly. "I can't follow your logic. Do you want to be driven into the dirt? I'm not against my own race, but I'm against a certain element of it, and that element must be stamped out. I'm not even concerned with what happens to your people. The strong must take care of themselves, and if they are weak and not strong, then they must yield.



"That is a law of life, jungle law if you like, but still a law."

"Your law," said the native, "not ours."

"Maybe, but we live by our law, not yours."

He looked at the native, at the fine proud features, the wide intelligent eyes, and the body that was so much like a human body. He felt a strange affinity for the Venusian, a strange longing to be respected by him, respected and liked.

"You know," he said slowly. "Something wrong has happened between our peoples. Here we are, you and I, talking as any two intelligent men can talk. Why can't it always be like this? Why has this difference arisen? Why do you make us feel ashamed so that in reaction we treat you as if you were animals?"

"You know the answer," reminded the native quietly. He stood for a moment looking down at the dead Venusian, then without a word, without a second

glance, he had gone, swallowed up in the mist and the dimness between the great trees. Jeff stared after him, and the truth of what he had said was bitter in his mouth.

He did know.

Men had come to Venus on the wings of high adventure, and those men had been good. Others had followed them, the hard-headed business men, the exploiters, the self-seekers and the get-rich-quick fraternity. Venus was rich. Venus was ripe for the plucking. Venus had intelligent life, natives who could work the plantations and mines—but the natives wouldn't play!

They hadn't wanted the trade goods, the cheap trash, the petty, glittering things designed to catch the eye and wear out in a predictable time. They hadn't even wanted money to buy artifacts from Earth. They had wanted nothing, not even contact, and so men had nursed their resentment and counted the

money they could have earned—if!

If the natives had agreed to work. If the Venusians had agreed to sweat for goods they couldn't use, clothes they didn't want, luxuries they were better without. Men had come bearing gifts—and those gifts had been scorned. They had brought the one unfailing weapon—and it had crumbled in their hand. For once in the history of man he hadn't been able to buy what he wanted, and the discovery made him realise just how much his money was worth.

The discovery had filled him with hate.

And so had come the garrison, the armed soldiers, the stern-faced military. They took what they wanted, took more than they could use, and like a rotten cancer the settlement spilled its filth into the once-fair forests. Men grew careless, wasteful, wantonly destructive. Why not? They had a whole new planet to play with. What did it matter if a few extra trees were cut,

some top soil destroyed, food sources ruined? Hell, there was plenty more wasn't there?

Jeff shrugged and wished he were back home. Back where things were familiar, where a man didn't have to talk with a tall, quiet-eyed savage with a too-keen brain. Where money had its correct worth and men didn't kill without reason.

Slowly he began to follow the almost washed-out blood trail, moving with his eyes to the ground, his body stooped and relaxed.

He didn't want to think about it.

THE BLOOD trail led directly to the hospital, a prefabricated structure of metal and plastic, spotted with fungi and streaming with condensed moisture. Jeff thrust past the guard at the gate of the high wire fence, slammed open the double doors, and glared at the white-faced man sitting on a bench, his hand wrapped in crude bandages.

"All right, you," he

snapped. "Come with me."

"Where to?"

"To the commander. I'm accusing you of attempted murder."

A doctor, his thin white smock stained and mottled with damp and chemicals, entered the room and glanced at Jeff.

"What's all this about?"

"I'm taking this man to Carmody," said Jeff tightly. "He tried to kill me. If I hadn't shot the gun from his hand he would have succeeded."

"That's a lie," snarled the man. He looked at the doctor. "I was with a friend of mine. We'd gone to the old shacks for shelter during the storm. This man shot Fred and would have killed me if I hadn't been lucky." He winced as he stared at his bandaged hand. "Fix me up, will you, doc? This hand is giving me hell!"

The doctor grunted, deftly cutting away the crude bandages and pursing his lips as he saw the nature of the wound.

"How is it, doc?"

"Not too bad. You won't lose the hand—just a couple of fingers." He reached for a jar of alcohol and began to swab away the caked blood and dirt. Jeff hesitated, looking at the pain-distorted features of the injured man.

"What's your name?"

"Gill Murphy," said the doctor quietly before the man could answer. "Now will you get out of here? I don't like an audience when I operate."

"Is that your name, doc, or his?"

"His."

"Thanks." Jeff turned and slammed angrily from the hospital. A guard stared at him with dull, incurious eyes as he headed for the administration building, and a young under officer stopped him just within the door.

"Yes?"

"I want to see Carmody," snapped Jeff. "Is he here?"

"Who are you? What is your business? Have you an appointment?"

"Jeff Walker. Private. No.

Does all that satisfy you or do you still want to play games?" Jeff glared at the young man. "Tell Carmody I'm here; he'll see me—and don't take all day doing it."

"If you will take a seat," said the young officer stiffly, "I will see whether the commander is free."

He marched away, a young man with dead white skin and short-cropped hair, uncomfortable in the prison of his thin uniform, yet needing it to bolster his pride. Jeff stared after him, then dropped into a chair, fumbling in his belt sack for cigarettes. He lit one, dragging the smoke deep into his lungs, and stared out of the open door towards the dull glimmer of the surrounding fence.

Five cigarettes later he was still waiting.

Five cigarettes, thirty minutes, time for murder, for intrigue, for escape. Time to do a dozen things, hide a dozen people, burn papers, walk a couple of miles. Time, too much time. Carmody

couldn't have been that busy.

He lunged to his feet as the young officer returned, crushing the smouldering butt of his cigarette beneath his sandal, and striding impatiently forward.

"Well?"

"The commander will see you," said the young man regretfully. "Follow me please."

Still armoured in the dignity of his uncomfortable uniform, he led the way to Carmody.

The commander sat in his chair behind the wide expanse of his desk. Behind him the windows were open; even the wire mesh screens had been swung aside. An electric fan whispered softly as its blades sliced through the thick air, and the room was redolent with the scent of burning tobacco.

Jeff paused just within the door, closing it carefully behind him, and his nostrils flared a little as a familiar odour triggered dormant memory. He said nothing,

just sat and looked at the tense features of the commander, waiting for him to speak.

"You wanted to see me?"

"Yes. Why did I have to wait so long?"

"Really, Walker!" Carmody gestured at the papers littering his desk. "I was busy and the young fool who brought your message forgot your name. I'm sorry, but there it is." He dabbed at his face and neck with a sodden handkerchief. "What can I do for you?"

"Arrest a man named Gill Murphy. He was in the hospital having treatment for an injured hand. I want you to pull him in and charge him with attempted murder."

"Murder?"

"Yes, my murder." Jeff reached for a cigarette and stared at Carmody through a haze of blue smoke. "There were two of them; I don't know the other man's name, and they were waiting to kill a couple of natives. They shot one; he died later. I

interfered before they could finish the job—killed one and wounded Murphy." He dragged at the smouldering cigarette.

"I left him down in the hospital. My bullet smashed his hand. The doc said that he would lose a couple of fingers, so you shouldn't have trouble picking him up."

"I see." Carmody moved some of the papers on the desk and avoided looking at Jeff. "You killed a man, an Earthman?"

"Yes."

"Why?"

"Why?" Jeff stared his surprise. "I told you—they were lying in wait for the natives. Damn it, man, did you want me to watch murder?"

"Murder?" Carmody shook his head. "Natives aren't men, Walker. You can't murder an animal. You did wrong to kill that Earthman; you shouldn't have interfered." He frowned down at the papers on his desk and nodded with sudden decision. "I

think you had better catch the next rocket back to Earth. As commander here I feel it my duty to order your return."

"What!"

"Yes. You've killed an Earthman, wounded another. They don't know what you are or why you are here, and even if they did they wouldn't have any sympathy for a snoop. Your life isn't worth a light once they learn of it, and Murphy isn't the sort of man to keep his mouth shut."

He nodded again, his thin mouth a tight gash across the pallor of his stern features.

"It is my duty to safeguard you, Walker. You will return on the next ship."

"Like hell I will!" Jeff stared at the man, his eyes narrowed and anger sending a dull flush of colour over his dying tan. "I came here to do a job, Carmody, and I'm not leaving until it's done."

"You should have thought of that before," said the commander tersely. "A dead man can't do jobs, and believe me,

Walker, once you leave this area you are as good as dead."

"Am I?" said Jeff softly. He slumped in the chair, forcing his muscles to relax, fighting the anger burning inside him. He reached for a cigarette.

"Tell me, Carmody, why should men want to kill natives?"

"How do I know?" The commander shrugged and leaned back in his chair. "Maybe they didn't like the idea of the natives prowling through the settlement. Perhaps the drums had got on their nerves and it was their way of releasing tension. Maybe it was just one of those things. Why do men kill, anyway?"

"Usually for a very good reason." Jeff stared at the smouldering tip of his cigarette. "They knew what they were doing, those men. This was no revenge killing, no sudden impulse or outbreak of nerves. They deliberately wounded one and then lay

waiting for the other. They knew that he would be along, knew it!" He looked at the tense face of the man behind the desk.

"How would they know a thing like that, Carmody?"

"I don't know."

"There was reason behind it all," mused Jeff. "Cold, logical reason. You know what those men reminded me of? They reminded me of hunters, setting a snare for valuable game. They didn't want the first man; he merely served as bait. They wanted the other one, and it was necessary to wound the first native almost to death in order to get him."

"Ridiculous!"

"Is it, Carmody? Perhaps you're right, I wouldn't know. Tell me, how long have you been on Venus?"

"Several years now. Why?"

"You must have learned quite a bit about the natives in that time—their customs, their ritual, the way they live and think. Do you know why some of the natives wear black

markings? An intricate pattern of jet tattooed into the skin?"

"Yes." The commander shifted uncomfortably in his chair. "You mean the Shamans, the medicine men. They are similar to our own African witch doctors."

"Is *that* what they are?" Jeff leaned back and closed his eyes. The heat sapped at his strength and the ghastly humidity wrapped him in warm, wet cotton wool. His mouth felt sore from too much smoking and his nerves twitched and jumped in irritation.

Carmody stared at him, then reached into an open drawer.

"You looked pooped. Want a drink?"

"Thanks." Jeff opened his eyes and watched the commander pour two glasses half-full of watery liquid. "Maybe you're right, Carmody. Maybe I'm wasting my time here. The drugs must be coming from some other place, and yet . . ." He smiled and

reached for the glass. "How did Peters get the way he was?"

"Who knows?" Carmody sipped at the alcohol and licked his lips. "We get all kinds stop off here—ships from Mars and Mercury. He could have got the stuff from one of them, and maybe the drums decided him to resign." He stared out of the window, the sweat shining on his flabby cheeks. "It wouldn't take much to make a man decide to quit. The only thing keeping men here at all is the chance of a quick fortune. The heat is bad, the humidity. And if that wasn't enough we have to listen to that damn pounding, day after day, night after night. I tell you, Walker, a man would be a fool to stay here if he didn't have to."

"And yet you stay here."

"My duty lies on Venus," said Carmody stiffly. "A soldier obeys orders. He doesn't question them."

"Peters didn't stay," reminded Jeff quietly. "I knew Peters. He was a soldier, a

reliable man, a man who would have stuck to the last. *What happened to Peters, Carmody?*"

For a long moment there was silence, a silence so intense that the subdued murmur of the drums seemed to come nearer, to enter the very room, bringing an impression of the raw, the savage, the utterly primeval.

Carmody didn't move. He just sat and stared at Jeff with eyes like holes punched in white dough. After a long while he licked his lips and the clink of glass chattering against his teeth echoed like castanets in the throbbing silence. He drank, his throat working as he gulped, and when he set down the glass it was empty.

"Damn you, Walker," he said without anger. "Why must you keep harping on Peters? He was my commander. I saw him every day. We left Earth together. Can't you forget him?"

"No."

"He was always interested



in the natives. A lot of us thought that he was too much interested. It wasn't the right thing to do. Earthmen and Venusians shouldn't mix, and yet he was the commander. We couldn't stop him."

Carmody stared down at his empty glass and spoke as if he were alone.

"I saw it happen. I saw a man rot beneath my eyes, his moral fibre vanishing as he began to turn native." Jeff winced at the scorn in the heavy voice. "We reasoned with him of course, the young captain he was friendly with, myself, some of the men, but he wouldn't listen. In the end he resigned, I still don't know just why, and now you tell me that he's as good as dead."

He stared at Jeff and his eyes were pits of torment.

"I could have stopped it, you know. I could have stopped him mingling with the savages, talking to the Shamans, lowering his entire race. It isn't good for a man to forget his dignity, Walker,

to turn against his race, to betray his heritage. I did what I could of course, but that was little enough, and when the trouble came he couldn't stand it. We had to clear an area, take over a village; we even had to kill some of the natives. I knew that Peters didn't like doing what had to be done. I think his mind must have snapped, and so he resigned and I took over and finished the job."

"And Peters returned to Earth, to lie rotting in gutters, poisoned with some exotic drug?"

"So you tell me. I wouldn't know about the drug."

"I see." Jeff stared down at his glass, at the watery fluid it contained, then swallowed it quickly. "This isn't getting me anywhere. I'll be back in time to catch the rocket."

He rose, setting the empty glass down on the edge of the desk, and watching Carmody trying to hide both relief and anger. Jeff shrugged. Somehow he just didn't care a damn what Carmody felt; he didn't

care a damn what anyone felt.

He'd just about had enough.

Outside, the wide leaves of the fern trees threw a shadow of deceptive coolness.

He began walking deep into the forest.

THE SOUNDS came from a million miles away, from the other side of the sun, from distant Earth, from the intangible land lying the other side of dreams. A thin chiming sound, a muted booming, a tinkling splash and a liquid rustle.

Jeff opened his eyes and listened to the sounds.

He lay on his side, his cheek pressed against the rich black loam of the forest floor, his knees bent a little and one arm doubled up beside his face. Aside from the sounds it was very quiet, and he frowned as he tried to fit them into a recognisable pattern. Then something struck his cheek with a warm dampness, and he smiled.

It was raining.

From the lowering clouds above streamed warm rain. The swollen droplets struck the wide leaves of the fern trees, bounced, fell to lower leaves, bounced again, and finally splashed to the black soil. It made a pleasant harmony of whispering noise, a peaceful sound, the whisper of nature in a world as yet unspoiled.

It lulled, soothed, washed away all care and worry, and listening to it, Jeff felt for the first time in years a sense of contentment and satisfaction. He sighed, rolled onto his back, staring up at the thick blanket of leaves and relishing the feel of the warm rain on his face.

After what seemed a long while he sat up.

Weakness gripped him. A horrible sense of utter nausea and fatigue. He stooped, thrusting his head between his knees in a desperate effort to wash away the tides of blackness pressing around the edges of his vision. He groaned, rolled over onto his face, and

gripped the loose wet soil with both hands.

Someone touched his shoulder.

He twisted, staring up at a calm face, at long white hair and intelligent eyes. The native smiled at him, and in the dim light the black markings on his body seemed to writhe and move as if they had an independent life of their own.

"You are awake," he said. "Good. Drink this now."

Weakly Jeff took the hollow gourd and gulped at the thick slimy contents. It burned his throat a little and the oiliness of the liquid made his stomach heave and churn, but he tightened his lips against the sickness, and after a little while it passed.

"What happened?" He stared wildly at the calm features of the Venusian. "Where am I?"

"You are deep in the forest, a long way from your people. You have been ill, very ill; now you must rest and rebuild your strength." He smiled

and reached for the gourd. "Can you drink a little more now?"

"I'll try." Jeff forced himself to swallow the thick liquid. He tilted the gourd, letting some of it slop over his chin, gagging a little over the horrible oiliness, and yet feeling that it was doing him good.

He paused, wiping his mouth with the back of his hand, then stared, his eyes widening in horror.

His arm looked like a stick.

Thin and wasted, dead white and soggy, covered with dirt and ingrained filth. He stared down at his body, at his hollow chest and protruding ribs, his rags of clothing and the festering wounds on legs and thighs. He touched his face and his beard was a tangled mass. He felt his hair, and it hung low over his neck, the matted strands sleazy and loaded with mud.

He smelt his flesh and knew what had happened.

The same sweet sickly smell,



*Illustrated by Davis*

the odour of alien things, mingled with stale perspiration and blending with the rancid odour of an unwashed animal. He thought of Peters and of what had happened to him. He remembered the condition of what had once been a man, and the memory tore at his stomach so that he vomited.

Silently the native handed him the refilled gourd.

"You must drink," he said quietly. "Unless you drink you will die." It was a cold statement of fact. Grimly he took the gourd and gulped down the noxious mess.

"You have been ill," repeated the native. "For a long time you have eaten no food. Your stomach is shrunken and must be treated with care. Your strength has vanished and must be restored. Your body was poisoned and must be cleansed."

"Poisoned?" Jeff looked sharply at the calm features of the native, and frowned. "How? When? By whom?"

He gulped at the liquid mess again. "Who are you?"

"We have met before." The native stared at him, a puzzled expression in his clear albino-pink eyes. "Do you not remember me?"

"No." Jeff stared at the man, at the strange black markings and the small gourd swinging at his waist. "I remember now; there was a man, I shot him, and another one who tried to kill me." He paused, frowning with the effort of memory. "I trailed his blood and found him in the hospital. I saw the commander, and we talked for a while. He gave me a drink, then I went for a walk in the forest. Then . . .?"

"Do not try to recall what happened then," said the native quickly. "Blank it from your mind, ignore it. Forget that time existed between then and now."

"Why?"

"Because some things are not well to know."

"It was the drink," mused Jeff. "It must have been the

drink. Carmody made too many slips; he knew about the shooting in the settlement, and yet I hadn't told him where it occurred. I was drugged, drugged the same way as Peters was drugged." He swallowed, thinking of Peters. "What will happen to me now?"

"You will live," said the Shaman quietly. "You will be weak for a time and there will be one spot in your memory that must forever remain a blank. More than that I cannot do, for your science is not as ours and your body in many ways is unpredictable."

"Then I was right—the drug does originate on Venus?"

"It does."

"Of course," Jeff said softly. "It had to originate here. Peters proved that, but..." He stared at the native. "How did it come to be in Terrestrial hands?"

"What men seek they find," said the Shaman ambiguously, "and if they seek destruction, that also will they find."

"Stop it," snapped Jeff irritably. He reached for the gourd and though his throat tightened at the touch of the liquid, he drank it down. He felt better now, not so sick, and while still horribly weak, yet his head was clear.

"You don't have to talk that way to me. I know you too well; you are an intelligent man. Did you give the drug to Peters?"

"No."

"Did he steal it?"

"Like all of his race he took what he wanted."

"Then he did steal it." Jeff rested his head on his hands, supporting his elbows on his knees. Somewhere was the one clue which eluded him, somewhere was the key to the mystery. Peters had discovered an exotic drug, and that discovery had been important enough for him to have resigned his commission and return to Earth, and yet...?

A man couldn't operate on his own back. A man couldn't imbed a container beneath

skin and flesh, and what man would deliberately drug himself into the state in which Peters was found? There had to be more than one man connected with it, perhaps several men. The doctor, Carmody, the young captain who perhaps knew too much and so had to die. The natives must know about it; the stuff originated from them, and that meant trade between the races.

He looked at the Shaman. "What is the drug?"

"This?" The native touched the small gourd hanging at his waist. "We have a name for it, but your people call it Exotic. A strange name, but then you have a strange language."

"Exotic?" Jeff stared at the man, then shrugged. "One name is as good as another I suppose. What does it do?"

"Ask those who know."

"Meaning that you won't tell me." Jeff smiled a little as he stared at the calm features. "Whatever it is must be pretty bad. Remember I've seen it work, though

from my own experience I can't swear to that." He frowned, trying to recall the blank spot in his mind, and for a moment nostalgia gripped him and he felt a terrible longing.

"Be warned," said the Shaman quietly. "Do not try to recall what happened. If you do, you will be as good as dead."

"Dead!" Jeff smacked his hand down onto his naked thigh. "Now I remember. You gave that injured man some just before he died—the native those Earthmen shot." He stared at the native and within his skull little wheels seemed to spin and facts fell into a composite pattern of utter simplicity.

"So that's what those men were after! Not the native at all, not even to kill you, except that it was incidental to their plan. They wanted what you carried, the gourd at your waist, the container of the drug!"

The native remained silent, his white body against the

black markings almost luminous in the dimness of the forest.

"You knew that," whispered Jeff incredulously. "You knew it all the time."

"Yes."

"And that native, the one who was shot, did he know also?"

"Yes."

"I can't believe it." Jeff shook his head in bafflement. "A native walks to a place where he knows that he will be shot and killed. You follow him. You know what is going to happen and yet you still follow him. Why?"

The Shaman said nothing, just sat on the rich black loam and stared at the Terrestrial with wide, albino-pink eyes.

"Those men," continued Jeff slowly. "Now I know why I had the impression they were hunting, using the injured native as bait. All they really wanted was the gourd at your waist." He looked at the calm features of the Venusian. "You knew that?"

"Yes."

"Then why in Heaven's name didn't you just give it to them?"

"Would you give a child fire to play with?" The Shaman's voice was very deep as he stared at a spot somewhere beyond. "It is not for us to place into the hands of any race the means of self-destruction, and yet if they insist, who are we to deny them their destiny? In this matter we are without guilt. We have not done as you tried to do. We have not bribed you with drink and drugs, cheap goods and pitiful substitutes for correct living. We have not robbed you of what is yours, then thrown you crumbs as compensation. We have done none of these things. Why then are we to blame?"

"You are not to blame. No one said that you were."

"If we had given you the drug, then we should have been guilty, and that is something not to be borne. No. Your own people discovered the drug. Your own race



found out what it was and why it was used. Earthmen decided that it was what they wanted, and so they took it as they take everything they think they need. They took it with the violence of their weapons. They took it with murder and with blood and with hate. So be it."

"I'm beginning to understand," whispered Jeff. He shuddered at the alien philosophy, the calm acceptance that men had to die so that an alien race could take what they wanted. "You deliberately offered yourself to be shot down, knowing that those men would take the drug." He stiffened as a thought stabbed at his brain, and his mouth went dry as he remembered Peters and just what the drug could do.

"What is the drug?"

The Shaman said nothing, his eyes blank windows of hidden thought.

"*What is the drug?*"

"Death," said the native, and smiled.

Silence closed around them

as the word whispered to nothing in the dim forest.

THE SILENCE grew, deepened, and closed around them with thick consistency. The rain had stopped, even the fairy bells of the falling droplets had ceased, and in the sudden hush Jeff became aware of something missing.

The drums.

At first he hardly noticed. Then, so ingrained had the regular cadence become, he actively missed the steady pounding of the monotonous rhythm. He shifted a little on the soft loam; then, fastening on the minor thing as relief from what he had just heard, mentioned it to the Shaman.

"Yes," said the native calmly. "We no longer need them. It is unnecessary to retain the barrier."

"Barrier?"

"Yes."

Jeff shrugged, then returned to things of immediate importance.

"You said the drug was

death," he reminded. "Did you mean that literally?"

"The drug is not poisonous if that is what you mean. In itself it is harmless; its potency lies in the effect it has on the brain."

"Madness?"

"No."

"Then what, or don't you want to tell me?"

The Shaman stared at him, his eyes glazed a little as if he were listening to something far away; then he relaxed, the black markings on his body writhing a little as the muscles rippled beneath his skin.

"We are an old race," he said abruptly, "a race older than perhaps you can imagine. We also have had our childish troubles, our wars, our attempts at improving on the natural way of life, but always we returned to sanity, and now we are as you see us."

"Primitive?" Jeff stared at the superb body of the native, the intelligent eyes and the cleanliness of mind and body. He shook his head. "No.

You are not savages. Perhaps that is why we hate you so much."

"Perhaps. It is natural for one race to fight against the superiority of another, but enough of that. We learned long ago that the mind is a delicate thing, and we also learned that thought has power. So we turned our back on things which disturbed the natural rhythm of life and concentrated instead on inner well being. We succeeded."

"What has all this got to do with the drug?"

"Naturally we discovered things. The use of fire. The ways of the forest. The fundamental principles of vibration. We learned the use of many plants, of herbs, of natural medicine. Some of what we learned had immediate application; other things seemed to be of little use, while still others were pregnant with danger. And yet all knowledge is of use, so we did not discard anything."

"The drug was one such discovery?"

"Yes. The drug you call Exotic was one such thing. Dangerous, and yet still with its uses."

"In which way?"

"Each man must die," said the Shaman quietly. "Every living being must sooner or later embark on the final journey. Sometimes the passing is one of peace, at others wrought with pain and fear. Old men die and young, but all die. It is then we use the drug."

"Why?"

"What is life?" said the native quietly. "Is it a struggle, a battle to grab all you can while you can? Or is it a calm acceptance of what is and must be? What is ambition? What is hope? What is fear and the futile longing for the unattainable? What is death?"

"For each of these questions there must be a different answer," said Jeff sombrely. "Your race and mine could never agree on a definition."

"Exactly. Each man has his own idea of what life should

be, and so arises discord. The drug puts an end to all that."

"How?"

"If a man knew that he could have whatever he wanted, satisfy his wildest ambition and every craving, if he knew that he would have all this, would he still struggle with his fellows?"

"I don't know," said Jeff. "Some men are never satisfied, can never be satisfied. No matter how much they have they still want more."

"Remember I said everything they want. The men you speak of do not have that, always there must be something they need, some object they cannot attain. If they could each experience their own heaven, would there still be strife?"

"I think there would. Men aren't built to be satisfied. Logically the Earth can produce sufficient for all, and yet still some starve while others waste. Logic has nothing to do with mankind."

"Then what has?"

"Greed perhaps? Personal

ambition, the lust for power, the desire to be strong? Some men crave the adulation of others, some the love of women. Still others worship tokens, forgetting what the true reality is." Jeff shook his head. "I cannot answer your question. Men have sought an answer since first they learned to think. They are still seeking an answer. They haven't found it and I don't believe they ever will."

"You are wrong," the Shaman said quietly. "Men have found the answer."

"The drug?"

"The drug."

Silence closed around them again, the silence of thought and unanswerable questions. A leaf fell softly from one of the trees and the rustle of its passage echoed like the thin whispers of the dead. Jeff shuddered, his body feeling an unfamiliar chill.

"You called it 'death'," he whispered. "Why did you call it that?"

"A race is as strong as an individual of that race, no

stronger. If the individual is weak, then the race is weak; if strong, then the race will endure. Men are weak."

"And Venusians are strong?"

"We are stronger than you."

"I believe it," said Jeff dully. "I have seen men corrupted by wealth, and I have seen the trade goods rotting in the store. I have seen men turn native, but I have not yet seen a Venusian turn Terrestrial. Somehow I think that we have failed, but it took an alien race to show us just where we failed. Men will reach the stars, but who will mourn them when they are gone?"

"There is still hope for your race while it produces men who can think as you do." The Shaman reached for the gourd and poured more of the noxious liquid. Silently he passed the gourd and silently Jeff drank it down.

"What is the drug?"

"Desire made concrete. Ambition fulfilled. Dreams

made real and longings satisfied. It is the ultimate in euphoria—and it is death.”

“And yet you use it?” Jeff put down the empty gourd. “Why is that?”

“Why should we spurn it? Think. A man is hovering on the edge of the great dark, trembling on the first step of the long journey. What harm can it do, then? We come when we are called, and to the one who calls we give the drug. It banishes pain, destroys fear, provides comfort. It divorces the mind from the body, alters the time sense, allows a man to experience to the ultimate every desire and longing, every hope and ambition. What he thinks, is. What he imagines, comes true. Mentally, physically, in utter sublimation of logic and sense, he lives a dream and to him that dream is real.”

“Dope,” said Jeff, and for the first time began to understand. “Cocaine, opium, marijuana, all have in a minor way the same effect. They divorce the addict from reality,

enable him to live in a fantastic world of his own. So the drug is just dope, and yet you call it ‘death.’ You are wrong. Mankind has lived with it for too long to be ruined by anything you can produce. We have too many poisons of our own.”

“I agree,” said the native, and if he had been from Earth Jeff would have suspected him of irony. “You have too many poisons.”

“Then why should your drug be so deadly?”

“Why do men come to Venus? Why do they work and suffer in a climate which to them must be oppressive, under conditions barren of comfort, without the society of their kind? Why do men reach for the stars? Why do they war, lie, cheat, steal, kill their enemies and betray their friends? What makes your civilisation? What is the one great driving force of your race?”

“Money,” said Jeff, and knew that he spoke the truth.

"Tokens. But why are they so important?"

"Because of the power they represent. Because of what they can do, the things they can buy, the comfort they can produce."

"Then if all those things could be had without constant strife, would men still work, still reach for the stars, still war and struggle?"

"I don't know. Money, as you say, is merely a means to an end, but some men worship it for itself alone."

"Yet those men are few, and if money was valueless would they be regarded as sane?"

"No."

"Well?"

Jeff stared at the calm features of the oddly marked native. He looked at the great boles of the fern trees, dim in the shadow of their wide leaves. He touched the rich black soil, then finally faced the inevitable fact.

The Shaman was right!

The drug was death. Death to all hope and ambition, to

struggle and progress, to wasted dreams and futile desire. He imagined Peters, a man so engrossed in his dreams that he had forgotten to eat, forgotten to bathe, forgotten that he was a man. He had stumbled through the gutters, lost in his dream world, and while his feet trod filth yet his mind roved the distant places between the stars.

Perhaps he had been a king ruling over a nation of beautiful women. Perhaps he had ruled all Earth and turned it into a Utopia. Perhaps he had made wonderful discoveries in the realms of science. They would never know, for a man's dreams were sacred and peculiar to himself alone.

But the wakening must have been hell.

To return to the harsh world of reality. To smell the dirt and feel the hunger. To see the hard faces of men and the empty eyes of women, to be nothing, to be less than the dirt beneath the wheels of

humming turbine cars. Could any man stand it for long? Could he stand the frustration, the bleakness, the constant struggle for food and shelter, the search for friends? Could he stand it when all he had to do was to take a pinch of power and return to his private kingdom?

Jeff knew he couldn't.

No man could. No man born of woman could deny himself the culmination of all he had ever worked and hoped for, all he had dreamed and wished for. It took too much, demanded too much. It was replacing heaven with hell—and men were weak.

The drug was truly death.

He had a vision of Earth peopled with blank-eyed men and women. People who had tasted of the exotic escape of alien drugs. They would shamble through deserted streets or lie supine on unmade beds. Children would whimper for mothers surrounded by a world of imaginary lovers or fathers immersed in their own private

harems. The factories would whine to a stop, the crops rot in the fields; the animals would die, then the people, falling in the streets, starving while gorging themselves on imaginary banquets, rotting from disease while enjoying imaginary health. It had happened to Peters, it could happen to the world.

Men were weak.

He drew a shuddering breath; then, like a tiny flame, hope blossomed somewhere deep inside him. He grinned, forcing stiff lips into a stiff mask, and for a moment felt the wild thrill of conquest and exultation.

The drug was deadly but—*he had been drugged!*

"I found you soon after," said the Shaman softly. "I followed you until the poison had worked its course. I tended you, watched over you—and I cleansed your mind of memories."

"Cleansed my mind?"

"Yes. If I had not, you would be in the grip of such craving as you could never

imagine. You would be tormented by the world you had lost, the world fashioned of dreams and suppressed desires. Nothing would matter to you but one thing—to regain that world in any way possible. You would have killed me for what I carry at my waist. You would plunge your world into war, kill your friends, do anything. For nothing would be important except what you had tasted and lost.”

“So you say,” gritted Jeff defiantly. “But how can you tell?”

“Why do you think we only give the drug at the moment of death? Why do you think that only we who are marked as I am marked carry the drug? Strong as we are, yet we are only as strong as ourselves, and the drug is as strong as desire, which is stronger than all.” The Shaman paused and Jeff could sense a great sadness and an unbearable longing.

“We are tested, we who wear the black. Tested as few

men can be tested. For we hold a great trust and one not to be abused. We know of what we do, know it the only way possible.”

“You have tasted the drug,” said Jeff. “You have entered this world of dreams.”

“Yes.”

Suddenly it began to rain, a whispering patter of swollen drops drumming against the leaves with muted thunder. It grew darker, the shadows seeming to cluster around the boles of the great trees. The native rose and Jeff rose with him.

Together they walked through the forest.

THE HIGH wire fence surrounding the landing field glimmered like a jewel-encrusted web, the huddle of shacks like a heap of discarded filth. Jeff paused at the edge of the settlement and narrowed his eyes at the utter lack of motion, the absence of life, the pregnant stillness hanging over the area. He strode through the semi-liquid



mud between the huts, peering inside some of them, then halted before the locked gate of the compound.

A red-eyed guard stared at him, the long barrel of his high-velocity rifle swinging down as he searched the forest with tired eyes.

"Open up," snapped Jeff. He leaned against the wire as the guard fumbled with the lock, cursing the weakness which even after two weeks of native feeding still tore at his body. Grimly he stumbled through the gate and headed for the administration buildings.

Carmody waited for him in the office.

The commander looked a wreck. His small eyes glowed against the pallor of his features, his hair was a tangled mass, and a heavy stubble coated lips and chin. He stared at Jeff as if he were seeing a ghost, then slumped back in his chair, his shoulders rounded and sagging with something more than just fatigue.

"Remember me, Carmody?" Jeff almost fell into a chair. "Walker. I came to investigate drug smuggling. Remember?"

"Yes. Yes, I remember you."

"Didn't expect to see me again, did you?"

"Sure I expected to see you again. I'd have sent out a search party, but things came up and I couldn't."

"What sort of things, Carmody?"

"Little things. We'll get over it. We always have. It just takes a little time."

"Time?" Jeff shook his head. "No, Carmody. Time won't cure it." He paused, watching the slow revolutions of the electric fan. "I passed by the mining site," he said gently. "I looked inside some of the huts. I counted your soldiers. Something's gone wrong, hasn't it, Carmody? Something's backfired right in your face."

"I don't know what you're talking about."

"Don't you?" Jeff shrugged

and reached for a cigarette. He shook one from the package, then threw it back onto the wide desk. "A native found me," he said conversationally. "A Shaman. He looked after me, fed me, told me a few things. I know all about it, Carmody. I know what happened to Peters."

"You do?" The commander relaxed a little, and his hand fell from the open drawer at his side. "What did happen?"

Jeff didn't answer, just sat and stared at the sweating figure of the commander, letting thin streamers of blue smoke spill from his nostrils.

"I learned quite a bit while I was away," he said. "I learned that the natives are telepathic. I know why they use drums. And I know where the drug comes from."

"You know a lot," sneered the commander. "Sometimes a man can know just a little too much."

"Like that young officer who died. Peters' friend—did he know too much?"

"I don't know what you're talking about."

"I'm talking about Venus, about a new world just ripe for the picking, about men who let the glitter of gold dazzle them to reality, and who forget they are men. I'm talking about Peters, a man who tried to learn something, and who learned too much. I'm talking about all those men out in the huts, the blank-eyed men, the drugged men, the men who've finally found what they have been searching for all their lives."

He leaned forward and crushed out the butt of the cigarette.

"I'm talking about a rat!"

"I don't like what you say, Walker. Remember where you are and what I am."

"You're a fool, Carmody, the biggest fool on two planets." Jeff surged to his feet and strode about the room. "Man didn't you realise that you were at war? Didn't it ever occur to you that perhaps the Venusians might not like the idea of you taking

over their world? That they might hit back?"

"You're insane!" Carmody shrugged and reached for a bottle pouring himself out a drink. He didn't offer one to his visitor.

"Am I?"

"Yes. What could those animals out there do? What weapons have they? How could they win any sort of war?"

"They've won it," said Jeff quietly, and sat down, cursing the weakness tearing at his body.

"They learned something from us, Carmody. They learned our one great weakness, and once they learned that we couldn't win. They learned that men are basically weak, and the rest was inevitable."

"Yes?"

"Yes. Who told you of the drug? Who first gave you the idea that it was just the thing to smuggle to Earth? How did you hope to keep the secret to yourself?"

"Are you accusing me of smuggling?"

"Yes, and I can prove it."

Carmody grinned, his lips drawing back from his teeth in an ugly snarl. His hand dipped into the drawer and when it reappeared he held a gun. Jeff stared at the tiny orifice of the high-velocity pistol and shrugged.

"Going to kill me, Carmody?"

"Why not? I never did like snoops."

"You won't kill me," said Jeff quietly. "I have friends out there, the natives, and if you kill me they'll know it. I told you they were telepathic, remember. Those drums were just to blanket out our disorganised thought, a form of barrier between us and them. If you kill me they'll leave the area—and you won't get any more of the drug!"

"I don't need it."

"Yes you do, and you know it. What happened while I was away? What blew up during those three weeks I wandered the forest, lost in

the mist of that dope you slipped into my drink? Did he talk? The man whose hand I ruined? The secret was too good to keep after all, wasn't it? Why get drunk when there was something far better to hand? Did they raid your store, Carmody? Did they help themselves? Is that what happened?"

"I couldn't stop them," the commander said dully. "I tried but my own men betrayed me. They acted as if they were crazy. I warned them, but it did no good." The gun made a flat metallic sound as it fell back into the drawer. "God help me, Walker, what can I do?"

"Nothing."

"Nothing?"

"Not a single thing. I told you that the natives had won, and they have. Almost every Terrestrial on the planet is in a drugged stupor. You know what will happen when they come out of it. The Shamans won't be around to let themselves get shot for the sake of what they carry. You are the

only place they can get the stuff from, and remember, nothing will stop them getting it."

"I know," whispered the commander. "I know."

"Peters must have discovered what the drug was for. He was curious, probably persuaded them to give him some, or maybe his friend 'found' some for him. There is a way to test the effects of narcotics. You dissolve some in alcohol, then spray it through an atomiser. That way you can test the effects without much danger of becoming an addict."

Jeff shrugged and reached for the cigarettes.

"He didn't know what he was doing."

"I was with him when he tried it," said Carmody sickly. "He used far too strong a dose; it got him immediately. When he came out of it nothing would stop him trying it again. The effects lasted about an hour, so he didn't get too weak. I fixed it with one of the pilots to arrange a

contact on Earth. I knew what the stuff would bring in the right quarters. Peters was the third carrier we used. The doc was in on it of course. He did the operation."

"So you got Peters to take a big dose, shipped him out, and promised further supplies when he delivered." Jeff nodded, his eyes hidden behind drifting veils of smoke.

"You knew that he couldn't resist, that he would do anything to get more. I said you were a rat, Carmody. I'm sorry, I didn't intend to insult an animal."

"You don't have to act so damn superior," snarled the commander. "You would have done the same in my place. Hell, man, who wants to stick in this god-forsaken hole when he could be back home? You know how long I've got to stop here? You know what my pay is? I saw a chance to get what I wanted and I took it. Where's the harm? A few natives shot. Who will worry about them? A few too-rich reprobates on

Earth kick off sooner than expected, who cares? Take me in if you want to; I've done a little smuggling, so what? Two, three years and I'll be out of jail and working again, and brother, with what I know I can get my own ship."

"That," said Jeff grimly, "was just what I was afraid of."

He dropped the cigarette and trod on it. He rose from his chair and, before the commander could stop him, had scooped up the pistol. He poised it in his hand and his eyes were hard and cold, like steel and ice.

"You're not going back to Earth, Carmody. No one is going back who has tasted that drug. This entire area is under quarantine."

"You're crazy!"

"No. I'm not the one who is crazy. You are. Can't you see what could happen? Can't you see the effects that drug will have? Hasn't it struck you yet that these Venusians are serious? They knew what you would do. They knew

that they would be shot for what they carried, and yet they deliberately walked to their death. Their twisted ethics made it impossible for them to give us the stuff. If we wanted it we had to take it, and we did. Would Earthmen have done that? Would Earthmen have kept a secret so well?"

"I don't understand."

"Look at it this way. If they had given us the drug we would have been suspicious. We would have tested it, banned it, warned the men against it. But they didn't do that. No. We had to be clever. We had to find out for ourselves. We had to reason that the natives didn't know about the drug and that we had to lure them like game in order to be killed so that we could get it. That made it legal. That made everything all right."

Jeff almost quivered with anger, the gleaming barrel of the pistol trembling in his hand.

"Can you imagine a race

like that? Think about it for a moment. Can you?"

A sickly expression glazed the commander's eyes and drew his features down into sagging folds. He stared at Jeff with horror, and when he spoke his voice seemed to fight its way through a pile of mush.

"My God," he whispered.

"How they must hate us!"

Slowly Jeff nodded and let the pistol fall to his side.

"Yes," he said. "They hate us, and yet their hate is a peculiar thing. I would call it determination rather than hate. They know that we will contaminate the planet and so they did something to stop us. If we return there will be something else, and then something else after that. We can't win, Carmody; we're out of our class and the sooner we realise it the better. Man is no longer the Lord of Creation. Other races have their own right to live as they want to. It's a lesson we had to learn, and we must learn it before we can really say

that we are ready for the stars."

"What is going to happen then? What of us?"

"Those who have used the drug will die. They will return to reality and crave their dream world again. I have the Shaman's promise that supplies of the drug will be given to them. Within two or three months they will be dead—nothing can alter that."

"Why? You were drugged and you are still alive." Hope glowed deep in the small eyes. "There must be an antidote! You found it. Tell me that you found it!"

"I found no antidote." Jeff stared at the commander's glittering eyes. "So it has got you too," he said wonderingly. "Knowing what it can do to a man, still you couldn't resist it." He stared at the man with something almost akin to pity. "You poor fool! There is no antidote. The Shaman worked on my mind, blanketed my memory, wiped out what heaven I must have experienced while wandering

in the forest. He did it for me, but he won't do it for anyone else."

"Why not? You could make him, threaten to kill him if he didn't. Walker, you've got to help me! You've got to help me!"

"No. I was treated for a specific reason. You must die with the rest."

"No!"

"Yes. I am to be the spokesman. I have agreed to a treaty. We are to have all this area, a hundred square miles, no more, and in return we respect their right to own their own world. No further supplies of the drug will be available while we keep to the treaty, but if we break it . . ."

"They are savages. You can't consider them against one of your own. I don't want to die, Walker. I want to live, to enjoy all the things I never had time for or could never get. Life is too short, it's over too soon. A man is old before he gets anywhere and then it's too late."

"Then take some of your own drug," snapped Jeff, and strode from the room.

Outside he waited for a moment, waited while a semi-hysterical man fumbled in drawers and found what he had searched for all his life. Glass clinked and something sighed as it rested on the floor. Jeff hesitated, stared at the blank-eyed man lying on the plastic flooring, a blank-eyed man now lost in a private world of dreams, then slowly left the office for the second time.

Outside clouds piled up in the sky, dimming the golden patch of the hidden sun. A thin breeze rustled the wide leaves of the great trees and a guard stared curiously at him as he stood by the gate.

He felt very tired.

There was so much to do,

men to take care of, others to evict from the wired area. The ships would come and leave again, until ships from Earth would arrive with new and different personnel. Venus would still provide a halting place for the travel hungry men of Earth, but now men would respect it, treat it as a world should be treated, and one day . . .

One day Terrestrial and Venusian would meet and each call the other friend. The two races would mingle, would share what they possessed, would mount the long road to the stars together, each helping the other. Time would pass and old wounds be healed, but it would take a lot of time.

A lot of time, but it would happen.

Gently, it began to rain.



# BRAINWAVES

*The second of a series of articles on topics frequently dealt with in science fiction.*

As far as we know, we are aware of changes in the world around us only through the medium of the senses. The mechanism of this is fundamentally the same for all senses—sight, hearing, touch and so on. In the eye, a specialised nerve ending is stimulated by a change in the environment, for example a black mark on white paper. An impulse passes along a nerve in the peripheral nervous system and enters the central nervous system. At that stage we become aware that we see a printed word.

Normally, an impulse passes between the part of the brain that sees and the part that associates the image with previously-seen images, so that at this stage we understand what we see. But what happens to the impulse?

Remember that the impulse represents energy, and energy cannot be destroyed. Somewhere, somehow, the impulse becomes a brainwave, a phenomenon that can be detected as an electric current by electrodes applied to the head. This is one kind of brainwave.

An apparatus that records such waves is called an electroencephalograph and the record itself (usually wavy lines on graph paper) is called an electroencephalogram (EEG).

The subject of electroencephalography is infinitely more complex than most science fiction stories would have us believe—and rightly so, since they *are* fiction. The earliest prototype of the EEG was a wobbly line photographed from a simple galvanometer connected to a length of silver foil that was bound to the subject's head by a rubber bandage. The most modern apparatus calls upon all the magic of electronics—eight pairs of pad electrodes take the brainwaves from eight regions of the head simultaneously, pass them at one and the same time to a bank of eight recording pens and to an automatic frequency analyser. This latter instrument sorts out the grosser components of the records. Records from any one pair of electrodes may contain tens of thousands of components. Only the most significant, the strongest, can be dissected out and analysed.

Dr. Grey Walter, the man who has spent most of his life working on this subject, tells us that we must picture the brain as "a vast aggregation of electrical cells, as numerous as the stars of the Galaxy, some ten thousand million of them, through which surge the restless tides of our electrical being, relatively thousands of times more potent than the force of gravity."\*

*\*The Living Brain, p.33 (Duckworth, 1953.)*

Only when something like a million brain cells "fire" at the same time is a measurable current produced. Nobody knows what, ultimately, makes the cells discharge. It is hoped that one day, with the help of EEGs, we shall find out.

Analysis of records has shown that various rhythms are common and almost ubiquitous. The main types are alpha, delta and theta rhythms. The alpha rhythm is the strong one during the first year of life and the dominant one during mental relaxation (eyes closed, quietness). Study of its relations to changes in the environment indicate that it represents a continuous scanning mechanism inside the brain, and only ceases when the sweeping scan finds a significant pattern—when awareness of change occurs.

Clinically, the alpha rhythm occurs in wide-awake subjects in regions which are squashed by tumours. But in some people the rhythm is absent; such people have specially vivid visual imagination—they think in pictures. In others, the alpha rhythm is so dominant that not even mental calculation destroys it; only reading aloud has this effect—such people have hardly any visual imagination and think in abstracts. The most frequent type of person is intermediate between these extremes (who make up one third of the population), and in them the alpha rhythm is destroyed merely by opening the eyes.

Delta rhythms are connected with sleep. They also appear to be a kind of scanning device—they sweep the

brain with neurone-paralysing effect and keep the level of responsiveness so low that only relatively violent changes in the environment get through to consciousness. The rhythms get stronger and stronger the more deeply we sleep; then they vanish in a flash when something overrides their depressant action—a door slamming, for example—and we wake up. There is a good deal more to the delta rhythm than this, but we have no space to enlarge. Sleep is something of a mystery, in mechanism and purpose, but the EEGs are beginning to make it a little more understandable.

Theta rhythms are the first to appear in terms of age and brain-maturity—they are present eight months after conception and are equally as strong as the alpha rhythm until the age of about ten or eleven. What happens then depends on the character of the individual, for theta rhythms are reflections of mood; they are associated with the whole field of pleasure and displeasure. They flare up in children who are deprived of sweets or toys, and in adults who have not learned to accept frustration and disappointment. They are the dominant rhythm in records from individuals characterised by childish intolerance, selfishness, impatience and suspicion.

It appears that theta rhythm, too, is a scanning mechanism—scanning for pleasure and ceasing as soon as a pleasurable awareness occurs. In one experiment the rhythms began in a young male student only when a pretty girl stopped stroking his head!



# HIGHWAY i

by  
Charles  
Eric  
Maine

*Mathematicians use the symbol  $i$  for the square root of minus one. Ingram had another use for it—and it nearly sent him to his death.*

Ingram was carefully outlining the main functions of the equipment to Breen, but it was tough going. Even when you've associated with a person and worked alongside him for ten years or more, it isn't easy to make him understand new and complex ideas outside his own field. Breen was essentially a ballistics man.

He had the hard practical outlook of a seasoned engineer who liked his science laid out before him on the workshop bench, or in the assembly sheds. The paper work and the higher maths he took for granted. Ingram, on the other hand, was one of the basic research men of *Neutronic Projects Inc.*—the back-room wizards with the shiny bald heads and the pale bespectacled eyes.

The equipment, which was nameless, stood on one side of the small bare room, and comprised a number of rack and panel units fitted with meters, lamps, and various forms of instrumentation, together with a desk-like console crammed with electronic apparatus. A transparent plastic cylinder, about seven feet tall, stood erect in one corner of the room. It resembled a gigantic lamp chimney, but was sealed off at the top and bottom by metal discs, to which were connected a number of multi-cored cables originating in the panel racks.

"Here are the power controls, Breen," Ingram said. "Four of them—one for each supply bank."

"Kinda critical, aren't they?"

"They have to be. The field force has to be exactly right for a perfect rotation. Otherwise you get a vector, and an enormous dissipation of power in three dimensions."

Breen winced. "There you go again, Ingram. I don't get this  $i$  angle. It's one thing making up a prototype machine to your specifications—I didn't have any trouble there—but when it comes to knowing how it works, or why—then I'm lost. I don't think it will work."

"Why?"

"Because I think time-travel's a fallacy."

Ingram smiled—a slow, thin smile that ruled a horizontal line across his pallid triangular face. "Sure it is, Breen." His voice was quiet and pleasant. "I don't deny it. But the principle involved here is not time travel—but

ordinary space travel, of the kind everyone knows about."

"You said that before—but it amounts to the same thing as time travel."

"Not at all—only, as it were, by coincidence. Look at it this way. We are, according to the evidence of our senses, which provide all the data on which science is based—we are three-dimensional creatures in a three-dimensional environment. And we can move at will in any of the three dimensions of space."

"That's obvious enough."

"But we also know that the universe is, in fact, multi-dimensional. Our own world of reality takes up dimensions 1, 2 and 3 of the many-dimensional whole. Dimension 4, which is at right-angles to the first three, is an extension of space which we normally interpret as time. Dimension 5 has been called the dimension of probability—or chance—where everything that might be and might-have-been exists, and is real.

Dimension 6 and the rest—well, who can suggest an interpretation for them? They defy the imagination."

"In other words—they are only mathematical abstractions."

"Perhaps—perhaps not. At present we have no way of finding out."

"Then where does it get us?"

"Quite a long way, Breen. Since all of the dimensions are an extension of space, there is no logical reason why a creature of three-dimensional perceptions could not be equally at home in any trio of adjacent dimensions. For instance—we are aware of—and bounded by—dimensions 1, 2 and 3. But why not 2, 3 and 4? Or 3, 4 and 5? It doesn't matter where you start in the series—three adjacent dimensions will give you a three-dimensional world."

"Sure—as an abstraction. That doesn't provide the answer to time travel."

"Agreed. But you will

appreciate that of a man—a physical three-dimensional man—could be rotated through ninety degrees, he would then occupy dimensions 2, 3 and 4—and would be free to move in any of those dimensions—which to him would be merely directions of space.”

“But what about time?”

“To him, time would then be dimension 5. He couldn’t travel in that. But he could move about in dimension 4—which is time to us.”

“Yeah—but not to him.”

“Exactly. And that is the only way in which time travel can be accomplished—by making dimension 4 one of the ordinary physical directions of three-dimensional space. It means losing one of the other dimensions—1 2 or 3, whichever you like—it makes no difference. In practice, by rotating the traveller through one dimension, he occupies 2, 3 and 4. In effect, he is multiplied by the factor  $i$ —the square root of minus one—a mathematical

operation which produces a change of ninety degrees in orientation.”

Breen scratched his head in some perplexity. “Okay, Ingram. I’ll assume you know what you’re talking about. The point is—what do I do?”

“I want you to memorise everything I am going to tell you about the machine.” Ingram fingered the switches demonstratively. “Tonight I’m going to carry out the first live experiment—on myself. I’ll need you to control the equipment in order to make sure that I get back safely. The theory doesn’t matter—you can forget it if you like—but you must remember the practical details—the operation and adjustment.”

“That should be easy. I built the thing—or most of it. I know the layout of the controls. All I need to know is when to do what.”

Ingram smiled—a confident, satisfied smile. “That’s exactly what I intend to tell you,” he stated calmly.

Half-an-hour later, his brain spinning with a mass of practical information about the i-rotation equipment, Breen left the room, and went down a flight of stairs to the lounge immediately below. A young attractive woman sat in an easy chair reading a picture magazine, but when he entered the room, she stood up and crossed over to him, smiling in a manner that implied more than just a greeting. He took her in his arms and kissed her.

"Charles is still in the lab, honey," he said. "He's going to be busy there for a long time."

"Is it definitely tonight, darling?"

Breen nodded. "If you want my opinion—he's as mad as a hatter."

"You don't think it will work?"

"How can it? He talks about multiplying himself by the square root of minus one. Does that make sense? And another thing—do you know what I saw in the lab—all

folded-up and new-looking . . . ?"

"I can't imagine."

"A bicycle! One of those latest lightweight folding bikes that you can carry around, and erect whenever necessary. What do you suppose he wants it for?"

"I don't know. Didn't you ask him?"

"Yeah, I asked him. I said: Why the bike? and he replied: For time travelling. He said—I'll be able to cover more time in less time. Then he laughed."

The girl looked worried. She released herself from Breen's embrace, and returned to the easy chair, but he followed her, and sat on the arm, with his hand resting lightly on her shoulder. "I tell you, Verna—he's crazy," he added insistently. "You could go ahead and get a divorce on those grounds alone."

She shook her head thoughtfully. "It's not as easy as that, Raymond. Yousee—I couldn't hurt the guy—not like that . . ."

"But you've got to hurt him some time, honey."

"Later. When his work is finished. Then we can tell him the truth about us—gently—so's it won't hurt too much."

Breen laughed sardonically. "It's going to hurt just the same whichever way you do it. Why don't you make a clean break, Verna? Come away with me now. Charles will get over it—he's too crazy to care much, anyway."

"He can't be so crazy. *Neutronic Products* rate him high among their research scientists, and . . ."

"Yeah—but they don't know about this time travel stuff. Why, if P. J. Verringer even suspected that Charles was playing with that sort of thing in his spare time, he'd fire him. A big company like that can't jeopardise its reputation by employing scientists with screwball ideas. Think of the damaging publicity there'd be if this got into the tabloids."

"Maybe you're right, Raymond." Verna's voice was tired—almost depressed. She lay back against the soft

upholstery of the chair, while Raymond's hand caressed her hair. He eyed her appreciatively—warmly.

"How did you ever come to marry a guy like Charles, honey? I—I just can't understand it."

She shrugged her shoulders. "Oh—I don't know. I used to be his personal assistant at *Neutronics*. We saw a lot of each other. I know he's not a handsome he-man—but I guess I must have felt sorry for him. He always seemed so lonely, and yet, for all that—so self-sufficient, and so alert mentally. Maybe I was crazy too."

"Sure you were. He's not the guy for you."

"Who is?"

"I am."

She turned her face up to be kissed again.

At eight o'clock that same evening Ingram entered the tall transparent cylinder in the lab through a narrow sliding panel in its side. He was dressed simply in a grey well-



worn suit, with an off-white shirt which, in combination with his untidy appearance, and meek but keen face, gave him the appearance of an out-of-work clerk. The bicycle was already in the container, lying on the metal-disc floor. There had been a certain amount of bantering cross-talk about this item between Ingram and Breen, but the older man had refused to go into detailed explanations.

"I've already told you, Breen—I'm expecting to find myself in the kind of three-dimensional space we already know. If I'm to travel at all in the fourth dimension—then I'll have to walk. Why walk when there are folding bicycles available?"

Breen didn't argue the point, but simply raised a significant eyebrow at Verna, who had come to see the departure of her husband. Ingram's final instructions, shouted from the cylinder, were "Whatever you do—leave the equipment on until I return. The i-rotation needs continuous power."

He gave a pre-arranged signal—a nonchalant raising of the right hand—and Breen pulled the first switch on the console. There was a set procedure for activating the equipment—a circuit preamble determined by relays and flashing pilot lamps. Valves glowed a dull red, and a characteristic smell of warm insulation rose from the large vitreous resistors in one of the panel racks. There was the unmistakable odour of ozone in the air.

Verna, watching soberly, with eyes just a little wide, felt an increasing tension—an increasing sense of oppression. It wasn't anything physical—perhaps the heavy breathing of her lover at the console; or the curious beetle-like appearance of Ingram inside the cylinder, like some zoological specimen inside a preserving jar; or the faint click-click of hidden relays marking the inevitable build-up of power and energy; or above all, the sense of imminence—of some dramatic event that would

alter the whole course of her life.

The actual moment of departure came suddenly, unexpectedly, with no blinding lights or crackle of power. One moment Ingram was there, in the cylinder, a feeble diminutive figure, supporting the bicycle in one hand—and then he was gone. Neither Verna nor Raymond actually saw him go—he simply wasn't there any longer.

For a moment or two they said nothing, but stared in astonishment at the vacant cylinder. Then Breen exclaimed: "Well—what do you know! Bicycle too!"

Verna eyed him anxiously, as though seeking some kind of reassurance. He walked over to her, and took her in his arms.

"Do you suppose he's actually gone into time, Raymond...?"

"Nothing that gink could do would surprise me. How do I know? He's disappeared all right. He's multiplied

himself by the square root of minus one—and vanished."

"What happens now?"

"Search me. I leave the equipment running, and wait for him to come back."

"How long?"

"Your guess is as good as mine, honey. Five minutes—an hour—a week—a month... he didn't say. He didn't even know."

"I don't like it, darling. It's—just a little sinister..."

Breen smiled and kissed her. "Don't you worry, Verna. Either Charles is crazy or he isn't. If he's crazy, then my guess is he won't come back—and that will save us the trouble of divorce action. If he isn't crazy, then he's probably pedalling on his bike like fury into the far distant future. I only hope he gets a flat tyre, and has to walk back."

Verna laughed. "You don't suppose he can see us or hear us now, do you, Raymond?"

"No—I guess not."

"Then kiss me and tell me

you love me. I need something to cheer me up."

Breen was only too pleased to oblige.

During the next two weeks, the i-rotation equipment functioned day and night in the small laboratory. Breen was a frequent visitor—not only to carry out his routine inspection and adjustment of the apparatus, but also to see Verna Ingram, and discuss plans for the future. Ever present in his mind was the possibility that Ingram might not return. Such a situation would be very convenient. He saw no great difficulty in having his death established as a legal fact—Verna had witnessed the disintegration—and then he could go ahead and marry the woman he loved.

As the days went by with no sign that Ingram was still alive or intended to come back, he grew more and more impatient, and became resentful that he should be committed to look after the machine that

would, sooner or later, bring back the man he least wanted to see in the world. It occurred to him, quite suddenly, that even if Ingram were still alive, and perhaps thriving in some future age, a failure of the equipment could prevent his returning. A technical breakdown would leave him stranded in time, and there would be no possibility of repairs being effected, because Ingram himself was the only person who really understood the principles and circuitry of i-rotation.

From this startling realization, it was a short logical step to the thought that such a breakdown could be conveniently engineered. With little effort, the equipment could easily be destroyed beyond repair. Ingram would be permanently out of the way—and from that moment on, things would run smoothly for himself and Verna.

The idea seized his imagination and obsessed him, so that he became restless and uneasy whenever he was alone in the

lab. With so little effort so much could be accomplished . . . yet he hesitated. Something was bothering his conscience and it wasn't the thought of Ingram left high and dry in the future—or maybe the past . . . He decided he would feel much better about it if he were to talk it over first with Verna, and once he had made up his mind on this point, he hesitated no longer, but went to see her the same evening. He kissed her, then said: "I've been thinking, honey—supposing Charles never comes back . . .?"

"But he may, Raymond. We can't be sure."

"Supposing we were sure—we knew he wasn't coming back."

She considered this for a moment. "I guess we could go and see a lawyer. Maybe they'd regard him as dead. In any case, I'd be able to get a divorce on grounds of desertion."

"Sure, Then we could get married."

"That would be—just fine, darling."

"Is that what you want?"

"Of course, darling. Don't you?"

"Yes. Then listen to me, honey. I can fix it so that Charles won't come back."

She stepped backwards, regarding him in surprise. "What do you mean by that, Raymond?"

"Just what I say. I can put the equipment out of action, and close the door on Charles. He'll be stuck in the future for ever."

There was consternation—almost horror—in her eyes, and it was the first time he had ever seen her look that way. He took her hand in his. "What's the matter, honey?"

"You can't do that, Raymond. It would be—murder."

"Nonsense!" He laughed—a loud confident laugh. "How can it be murder when you don't kill a guy? He'll still be alive—only in a different age. It's not a criminal offence to close the door on someone."

"It's wrong, darling. I

don't care what you say—it's criminal. You can't do it, and I won't let you do it."

Breen became irritable. He pulled her towards him, and held her firmly by the arms. "Now look here, Verna. You just said it would be fine if Charles never came back. We could get married—and that's what we both want. All right—I can fix it that way. What's the objection?"

"If Charles doesn't come back — either because he's dead, or because he doesn't want to—then that's okay, Raymond. But if you deliberately prevent him from returning—then that's a criminal and dishonest act. I won't let you do it."

"You won't stop me," said Breen fiercely.

He released her, and went straight up to the laboratory. There was no doubt or hesitation in his mind now; Verna's opposition to the scheme had simplified the situation so far as he was concerned. He knew exactly what he was going to do. First—throw the

main power switch, then go to work on the vacuum tubes with a hand-wrench, and finally—just to make sure—tear out bunches of the fine inter-stage wiring with a pair of wire-clippers. It took him exactly three minutes, and when he had finished the i-rotation equipment was dead, and unlikely to function ever again.

He went downstairs to the lounge again, to find Verna standing by the telephone—white-faced and wild-eyed. "All right, honey," he announced triumphantly. "Stop worrying. Charles won't come back—ever."

"Raymond, forgive me," she said quietly. "I've called the police. They're sending a homicide squad . . ."

Even before she had finished speaking, the wail of a police siren filtered up from the street below.

CHARLES Ingram's first experience of i-rotation was decidedly unpleasant. From the moment when Breen had

pushed the switch that set the preamble relays in operation, the interior of the cylinder had seemed to close in on him. The transparent walls had become somehow scintillating and unreal, and there was an electric tension in the air that made his heart thump faster. There was no pain as the power surged through him—only a terrifying paralysis—then vertigo—then darkness. For a fractional moment he was a non-entity suspended in a cold, formless void, but this was replaced, quite suddenly, by . . . at first he couldn't identify the scene before his eyes. It was familiar—but fantastically different. Slowly recognition crystallised in his brain. It was the laboratory—just as it had been before the equipment was switched on—but it was flat and dimensionless—like a luminous projection on a vast movie screen.

Except that there was no movement of any kind. Breen was over at the console—poised motionless—with one hand awkwardly raised in the

air above a switch. Verna was there too—a flat cut-out Verna, with one hand raised to her mouth in a frozen gesture of alarm. The red second hand of the large laboratory clock was not moving. There was no sound, no movement, no reality. Everything was a plane, a still picture, spread out before him. Yet he himself seemed to be part of it. The transparent wall of the cylinder was in the picture too, and was as unreal as the rest, yet he himself was solid and substantial—and alive. He was a three-dimensional being in a two-dimensional environment—a human in Flatland.

Ingram's first reaction was one of blank stupefaction. For a moment he thought the experiment had failed, but his keen scientific brain soon recovered from the shock, and began to analyse systematically the evidence of his eyes. The truth of the matter, he realised, was that he had never attempted to visualise how the world would appear

to an i-rotated observer. He had steeped himself in the pure mathematics of the process, but had failed to consider the more mundane aspects. Somewhere at the back of his mind had been a vague picture of worm-like life-lines meandering and undulating across a featureless grey plain or substratum, but that naive impression apparently bore no relation to the reality. The grey substratum was there, in a sense—for he felt himself standing on a firm smooth surface—like the floor of the laboratory. It seemed to stretch all around, beyond the two-dimensional image of Breen and Verna in the work-room.

He stepped forward slowly—towards the image—but as he moved, it receded, and his eye caught a movement. Breen's hand had dropped about two inches towards the control console. The red second-hand of the wall clock had flicked forward a division or so. Verna's expression was slightly different. A great

truth dawned in Ingram's mind—he had walked forward in time. While he remained still, the picture before him was static and motionless; but when he moved, then the picture changed—became animated—exhibited the phenomenon of time sequence.

His alert senses leapt to the obvious corollary—it moving forward caused time to advance in the two-dimensional world he was observing, then walking backward should cause time to be reversed—like a motion picture run through backwards. He tried to take a step to the rear—but found he couldn't. He couldn't even turn round. There was only one direction in which he was free to move—and that was forwards. It was a one-way road—the road to the future. The past, it seemed, was immutable. A line from Omar Khayyam insinuated itself into his train of thought—*The moving finger writes, and having writ, moves on*. Well—it was true enough: here was the practical test.

He had come up against something fundamental in time travel—you can't go back. That was something basic in the outside world too—the unreversibility of time, and the law of entropy.

In a sudden panic he stooped down and groped for the bicycle—but it was still there, close to his feet. He picked it up and unfolded it, pushing the supporting struts into place with an agitated motion. For one awful moment he had imagined that the step forward he had taken had placed it irretrievably beyond his reach.

He now began to walk forward, slowly and cautiously, observing the animation of the figures in the scene before his eyes. Breen, Verna and the laboratory clock started into motion—slowly at first, but speeding up into normal activity as he increased his walking pace, pushing the bicycle along by his side. At the same time sound became audible—the sound of their voices talking—

wavering and varying curiously in pitch, because his speed was not perfectly constant. It was like watching a cine film running through a faulty projector.

As he walked, he tried to figure out the exact significance of what he had seen, and soon the solution became clear. He had overlooked one important fact. Because of the *i*-rotation, he was now extended physically in dimensions 2, 3 and 4. The rest of the world he was observing had remained in dimensions 1, 2 and 3. The only dimensions they had in common were 2 and 3—and they were the only two he was capable of observing. Dimension 1 no longer existed for him: dimension 4 was a formless grey expanse behind the picture plane into which he was advancing. The world he knew had effectively been reduced to a flat two-dimensional world so far as his *i*-rotated senses were concerned. Had he carried the rotation a stage further, into dimensions 3, 4



and 5, his world would have become a line—a one-dimensional thread suspended, presumably, in a grey void.

And from the viewpoint of dimensions 4, 5 and 6 . . . ? A point — a dimensionless atom of being in an eternity of . . . what? He couldn't even begin to guess, but he had a feeling that he had touched upon a profound aspect of metaphysics just beyond the eager grasp of his understanding.

He was abruptly startled out of his reverie by what was happening in Flatland. Breen was embracing and kissing his wife, and what was worse—she was responding in no uncertain manner. Ingram stopped and stared, and the picture became inanimate—a still colour-photo of a lovers' embrace against the austere background of a laboratory—his laboratory.

An insane jealousy swept over him. He rushed forward, as though to thrust the two apart, and the picture jerked into sudden movement again,

but receded as ever, so that he was unable to make any advance on it. He was confined to the relative position of the cylinder—was observing the lab from behind its transparent walls—and couldn't break out. Any movement he made simply took him forward in time.

He saw Verna and Breen leave the laboratory arm in arm, and then the light went out, and he was left in almost complete darkness, with only the faint crimson glow from the vacuum tubes to cast a faint blood-hued glow on the equipment.

Ingram mounted his bicycle, anxious to hurry on until someone came into the laboratory again. With his mind a confusion of bitter thoughts, he pedalled fiercely into the future, with no means of knowing his rate of progress. Verna was unfaithful—that was the salient fact that had assaulted his mind. Breen—friend throughout many years—had abused his hospitality

by making love to her behind his back.

He wondered how long it had been going on. In a sense, he realised that it was partly his own fault. He had been intensely absorbed in his work for many years, and he had no illusions about himself—he was as dull and prosaic a husband as you would find anywhere in the world. It had always been a mystery to him why the girl had ever been attracted to him in the first instance. It was one of the eternal mysteries of life. Sure—he had neglected her, and Breen had come along—a younger, more attractive, more virile man. It was only natural that this should have happened.

He rode on along the time highway full of anger, jealousy, contrition and—strangely enough—understanding. He couldn't find it in him to blame anyone except himself.

The laboratory flashed into full brilliance, then snapped into darkness again before he had time to squeeze the

brakes. In the space of about one second Breen had entered the room, carried out a number of long and intricate adjustments to the equipment, and had left again—the whole operation being performed with such incredible rapidity that Ingram was unable to follow his movements. He stopped in the darkness to think it over. The speed of that transitory incident was much greater than he would have anticipated, even allowing for the velocity of the bicycle. Breen had rushed in and out at a tremendous rate. There had been no accompanying sounds—probably because the speeding-up process had pushed the frequency of the audio waves up into the supersonic spectrum.

It seemed to Ingram that as he travelled through time, at what he imagined to be a constant speed, so the rate of progress accelerated. It wasn't a linear progression, but apparently followed a square-law—like the increasing acceleration of a body falling

through space under the influence of gravity. That was another factor he had overlooked, but it made sense.

Acceleration denoted a curvature in the fundamental nature of multi-dimensional space, and that tied up conveniently with the relativists.

But there was a more important significance in this discovery—the fact that increasing acceleration through time placed the far distant future within his reach. Provided he kept pedalling long enough, there was virtually no limit to the distance he could travel in dimension 4.

Curiosity about Breen and Verna, however, prevented him from seizing this opportunity at first. He felt compelled to make frequent stops, dismounting and walking, in order to observe laboratory scenes at a normal rate of movement. It was in this way that he saw—about an hour after the i-rotation had taken place—the destruction of the delicate equipment by Breen, armed with a large steel

wrench. Ingram's stomach turned over at the sight—not because of the vicious sabotage of ten years of intensive work, but because of the effect it would have on himself—when he eventually caught up with the time that he was now seeing in advance. He was witnessing a preview of his own predicament. There was no accurate way of estimating how long had elapsed in Breen's world between the moment of the original i-rotation and the act of sabotage. Possibly ten days, or two weeks—or maybe more.

He had seen it happen in an hour, because his time angle had shifted, but when those days had elapsed he would inevitably find himself in the time highway—cut off from a source of rotation power. He wasn't quite sure what would happen—but he didn't like the prospects.

Breen's motive was fairly clear to him. It was a simple case of the eternal triangle—the solution being, as always, the elimination of one of the

sides. He was the unwanted side on this occasion—and it didn't feel good.

There seemed to be only one thing to do, and that was press on at full speed into the future, until he was able to make contact with an age of great scientific advancement. He wanted to put everything right in his life—even if it meant going back several years, and treating Verna with less indifference. Above all, he wanted to make sure that Breen would never have the opportunity to steal his wife in the way he was witnessing. He couldn't see how it would be possible—but perhaps scientists of a future period would have solved the problem of travelling backward in time. With their help he might be able to put the clock back and make a fresh start, treating Verna in the way a young and vivacious woman wants to be treated, and at the same time maintaining his interest in *i*-rotation.

In such a mood, his thoughts jumbled and in-

coherent, lacking their usual precision and logic, Ingram mounted his bicycle again, and set off at full speed down the time highway.

During the next few hours, Ingram was able to observe the future history of the laboratory. At first he stopped and dismounted at frequent intervals, in order to study the scene at his leisure, but each time he re-started, the acceleration he had achieved was gone, and it became necessary to build it up again from zero. The laboratory flickered into illumination and darkness in a manner that tired the eyes. Once—early in the journey—he thought he caught a glimpse of uniformed police examining and photographing the equipment. Then later, the room was in darkness for a long time, denoting the passage of weeks, or possibly months. When the light finally came on again the equipment had gone, and the room was furnished in the conventional way with a table

and chairs—and a man and a woman moving around, but they were strangers to him. He tried to interpret the meaning of what he saw as he went along. It looked as though Verna had moved out of the house; there was certainly no further image of her, or for that matter, Breen. And he saw nothing to indicate that he himself ever returned to his own era.

On and on he went, observing with a more practised eye the swift intermittent images as they came and went on the two dimensional screen before him. Through the decades—slowly at first—then more and more swiftly. He saw the man and the woman grow older. Children appeared, grew up, and vanished from the scene. Then the man—now stooped and white haired—was gone too, and only the old woman remained. But soon she was no longer there.

A new generation of strangers took over the house, and the furnishings changed

in appearance, becoming more futuristic in style. A large stereo-television cabinet came into view, on which, in brief glimpses, he saw newsreels that astonished him—giant flying-wing airliners, passenger-carrying rockets ascending into space, jet-powered hovercars, and the official opening of a tunnel beneath the Atlantic for traffic and freight. Science was playing an increasingly greater part in the life of mankind—in fact, it was rapidly becoming the corner-stone on which civilisation depended . . .

As though to contradict his thoughts the screen dissolved in a searing white flash that rendered him momentarily blind. He kept moving instinctively, rubbing his aching eyes with one hand. When he was able to see again, the room had disappeared, and in its place there was smoking rubble. He seemed to be at the edge of a vast crater, the centre of which had a shiny fused appearance. All around was desolation. The sky was

stained and darkened by a gigantic mushroom of dense smoke rising up for miles.

Nothing further happened for a long time. He was effectively in the open now, though the scene was still two-dimensional. The alternate flicker of night and day blended into a continuous soft grey luminescence. He was travelling too quickly to observe individual motions of men, but as green vegetation began to appear among the ruins, so new structures raised themselves up in the distance—larger and more magnificent buildings towering up into the sky. In no time at all, it seemed, every trace of the atomic explosion had been eradicated, and the crater became the foundations of a tremendous skyscraper in shining metal.

Until the next atomic explosion . . . and the next . . . and the next. Ingram marvelled at the resilience of man—his inherent stubbornness—that enabled him to rebuild in order to destroy,

then rebuild again. Always the architecture was finer and greater—as though war and devastation raised his creative powers to higher and higher levels.

There was a long interval of peace, during which he was looking out and down on an ultra-modern city from a point apparently located in space some thirty feet above street level. Aerial highways spanned the chasms between skyscrapers. Airborne traffic streamed by at pre-determined levels, from the ground high up into the skies. He caught a glimpse of metallic saucer-like objects suspended in space, like miniature moons, and saw rockets moving towards and away from them. Then the view brightened—there was no more night, only perpetual day produced by a ring of artificial suns encircling the earth like an enormous fiery girdle suspended in space.

A new building arose and encompassed him. In the space of a few seconds he

found himself in a room—a gleaming box of a room—fitted with equipment of unimaginable purpose and incomprehensible design. People flashed here and there, but they were only a formless blur at the rate he was travelling.

He remained in the room for a long time, observing no change in content, and pedalled harder and harder in order to break through to a new environment. This was an age of great scientific advancement—there was no doubt about that—but how much did they know about time travel? Could they provide the information and the facilities he required? And—an even bigger problem—would he be able to make contact with them from his extra-dimensional plane, and if so, would they understand him?

And then it happened. Quite unexpectedly he ran full tilt into an obstruction across the time highway—something hard and unyielding located

obliquely across his path. The bicycle struck—crashed—and he was flung violently off. At the same instant he experienced a sickening electric shock that paralysed every nerve in his body. Blackness closed in, but as consciousness was dragged from his brain he heard a voice—a human voice—saying: “Grab him tight. He’s the guy who started all the trouble!”

Ingram recovered from his black-out a few seconds later to find himself securely held by two tall steel-muscled men. They were simply attired in white loose-fitting tunics and kilt-like shorts, with flat cross-strap sandals. A black belt around their waists held holsters from which protruded the butts of sinister-looking pistols. But the thing that impressed Ingram most of all was the fact that the objective world was three-dimensional once again, and he was part of it. He had been forcibly dragged from the time highway for a reason he didn’t

know, but would undoubtedly soon find out.

"Take it easy, old timer. We're not going to hurt you—yet." The guard laughed sardonically.

"We've been waiting quite some time for you."

Although they spoke in the language and idiom that he knew, there was a quality about their voices—a subtle accent and inflexion—which fell strangely on his ears.

"Come on. The Provost Marshal's got something to say."

Ingram was conducted through a sliding door and down a cool wide corridor into another room. He had a fleeting impression of thick crimson carpet, curious cubist chairs, and a battery of video screens set in a large panel on one wall. Then his eyes focused on the desk at the far end of the room, and the lean melancholy mar behind it. The guards hustled him forward until he was standing before the Provost Marshal.

"Time immigrant, sir. Just pulled him in off Highway *i*."

"Hm. Mode of travel?" The Marshal's voice sounded bored.

"Archaic two-wheeled pedal vehicle."

"Hm. A bicycle. Original, at any rate. Most immigrants seem to favour jet cars."

The Marshal stood up and scrutinised Ingram as one would inspect a biological specimen.

"Not very rugged. But intelligent—yes, intelligent. What's your name?"

"Charles Ingram."

"He's the guy that started the trouble," one of the guards pointed out.

"I'm aware of that. Ingram of 1954. The inventor of *i*-rotation.

"Do you realise, Ingram, that you are directly responsible for the biggest nuisance of the 23rd century?"

"Who—me?" asked Ingram in perplexity.

"Yes you—in spite of your innocent manner. Ever since you started this *i*-rotation



business, people have been time travelling for the past five hundred years. Yes—thousands upon thousands of them. We've had several centuries of war, during which the population of this planet has been reduced to less than half a million. Finally we have attained a new zenith of progress and culture—a tightly organised, self-sufficient world with a very high standard of living. Naturally all the time travellers by-pass the atomic wars, and decide to settle in on us—here and now."

"Thousands you say?" Ingram queried

"Tens of thousands. You are the last of them, I think. The others all got here before you, because they didn't have so far to travel, and they used faster means of locomotion."

"Amazing!"

"Most of them tried to go on a little further into the future—to a period of still greater stability and achievement. The government of Terra a hundred and fifty years from now got tired of

this endless stream of immigrants—people from the decadent ages with atavistic traits and no knowledge of modern techniques. We received orders to erect a fifth-dimensional barrier across the time road—Highway *i*. We have equipment to rotate immigrants back into the three dimensions of space. In other words, we are a security check point to stop illegal immigration."

"Tens of thousands!" breathed Ingram. "Then my discovery must have attained general recognition . . .?"

"It sure did. That's why you're in trouble."

Ingram ignored this last statement. "You say you received orders from the future to stop immigrants . . . That means you have time travel too. Both ways."

"Yes. We have. Ironically enough, we use your system—*i*-rotation."

"That's what I came into the future to find out—how to travel backwards in time."

The Marshal smiled sar-

donically. "Forget, it Ingram. You'll be lucky if you live long enough to travel anywhere. I'm going to read Section 64a of the Terran Security Regulations of 2416—that is the particular regulation under which you are being arrested and charged." He selected a pink docket from a file on his desk. "Here we are—Section 64a—relating to the threat to social and economic stability caused by excessive time immigration from the belligerent centuries. Immigration by time, whether by Highway *i*, sub-dimensional transit, pathological hibernation, or whatever method, is an offence under the Stability of the Social Order Act of 2416, for which the maximum penalty is compulsory euthanasia. That means death, of course."

"But I don't want to stay—I only want to go back."

"There is no going back, Ingram. Every time-immigrant knows the secret of time travel. If he is allowed to go back, he will inevitably spread that knowledge to others. He

must stay here, either dead, or alive on a penal satellite."

Ingram was seized with a kind of unreasoning panic. "You can't do that to me," he shouted, thumping the desk with his fist. "I demand justice. You can't kill a man or imprison him without a trial."

"We could, but we won't," said the Marshal calmly. "You'll get your trial. Meanwhile you must be held in custody. You'll find it quite pleasant, once you get used to free fall. You'll be with other time immigrants, too."

The interview was at an end. Ingram found himself being forcibly conducted out of the room and into an elevator, which ascended suddenly and silently, causing his knees to sag with fierce acceleration.

"Where are you taking me?" he demanded indignantly.

"We ask the questions around here, old timer."

They came out on a flat roof under a clear blue sky. The ring of miniature suns he had seen from the time highway

shone fiercely down with almost tropical heat. Glancing up, he saw a myriad flying machines in the sky, flying in well-defined lanes. The air up here was thin and attenuated, and glancing downwards as they neared the parapet at the edge of the roof, he nearly collapsed at the tremendous height of the building—indeed, height was hardly an adequate word—altitude was more accurate. He guessed they were about three miles above the ground.

The guards whisked him into a small cigar-shaped vehicle standing on the roof, and strapped him into a springy bucket seat, then they moved into the fore compartment and slammed the cabin door. There was a sudden throbbing of booster pumps, followed by a roar that assailed his ears in an intolerable deluge of sound. He felt a hand pushing him backwards into the padding of the seat, sucking the air from his lungs, pressing violently into his stomach—and then,

for the second time that day, he blacked out.

Penal Satellite No. 7 was a large metal saucer-like disc circling the earth in a fixed orbit at a radius of about 22,000 miles. It was, perhaps, two hundred yards in diameter, the whole structure being covered and sealed in with a transparent dome of extremely tough plastic material. Here Ingram found himself mingling with some twenty other prisoners in a circular arena at the centre of the satellite. Around the edge of the arena, behind a shiny metallic wall, were the administrative offices, the quarters of the satellite staff, the small hospital ward, the thermopile generators and associated power equipment, and the radio and radar room. The whole structure was clean and tidy, with fresh, circulating air and adequate warmth.

Ingram spent the first few hours of his stay on Satellite 7 by being sick—in spite of the precautionary shots of trinitamine they had given him. Free

fall meant no gravity, and that meant instability of the semi-circular canals of balance in the ears. He found himself unable to move without experiencing violent dizziness. But eventually he grew accustomed to the sensation, and his body settled down to something like normal behaviour.

He found his companions in crime were a curiously mixed bag—all presumably from periods of time future to his own, and wearing a wide variety of garments of differing design and texture. There were no women, which seemed to indicate that time-travelling was essentially a male pastime, but later he discovered that some thirty female time immigrants were imprisoned on Penal Satellite No. 3.

It wasn't long before he had made friends with a man named Katz—a short, thick-set individual wearing peculiar heavy spectacles whose birth year was 2098. Katz spoke to him on the first occasion that he was sick.

"Don't let it worry you, friend. You'll get used to it."

Ingram made a non-committal reply that sounded more like a grunt.

"What's your name and where are you from?" asked Katz.

"I'm Ingram—from 1954."

The other man whistled in astonishment. "Not *the* Ingram—who discovered i-rotation?"

"Yes. That's me."

Katz suddenly became confidential in manner. "Better not tell the others. They feel resentful, and they might blame you for their predicament. Me—I don't care. I'm an easy type."

"What's in store for us?" asked Ingram.

Katz shrugged his shoulders. "Some immigrants are euthanased—the ones they consider most dangerous. Others—well, they stay here on these penal satellites for a long time—perhaps years; then a few are allowed to settle in as citizens. The brighter ones—

those who seem likely to do useful work."

"And the remainder . . .?"

"They usually get sent to the ore workings on one of the inner planets. Mars is favourite. The bad types go to the moon, and believe me, that's grim. No one likes the moon."

"So they have achieved interplanetary travel?"

"Sure. They had already accomplished that in my day—in a crude sort of way, with clumsy liquid fuel rockets. You ought to see the modern helio-drive clippers! Pioneer work on the outer planets is going on. An expedition returned from Jupiter a few days ago."

"And they have time travel too—both ways?"

"They sure have—but there are so many restrictions and legal angles. It's very unpopular. The attitude of the government is that everyone should stay in his own period."

"Hm—time nationalism," Ingram observed. "In my day it used to be every man to

his own country. Now it's periods that matter."

"Sure. Why not? Next thing there'll be time wars—with the people of one age fighting other people of another age, who are either unborn or long dead. Funny, isn't it?"

"I think it's profoundly depressing," said Ingram. "Human nature hasn't changed."

Katz chuckled. "It stopped changing when man began to adapt his environment to himself instead of vice versa. Civilisation and evolution are bitter enemies."

Ingram considered this for a moment. "You mean that civilised man can't evolve...?"

"That's the way it is. Brahne taught that principle in 2061. The moment man evolves sufficiently to mould his environment to his own needs and convenience, he ceases to develop. He just saturates the intellect that he has attained, and reaches stagnation."

"That doesn't sound too

good for me," said Ingram. "If the men of today are no better than the men of my own age, then they are likely to kill me—just as the Provost Marshal said."

"Sure they are. Nothing more certain. You're Ingram, aren't you—the guy who started i-rotation? They'll kill you without a doubt."

"But— isn't there anything I can do . . . ?"

"Such as what?"

"Go back—or even forward—to a more tolerant age."

Katz shook his head. "Not a chance! You'll spend about two weeks here, on Satellite 7, and then you'll have your trial—and that will be that." He snapped his fingers expressively.

Ingram moved, felt his head spin and his stomach turn over. He was going to be sick again.

Katz had been right about the trial. It was exactly two weeks after Ingram's arrival on the penal satellite that he

found himself being escorted to a small rocket moored to the outer rim, by two uniformed guards. He waved forlornly to Katz, and to several others whom he had grown to regard as friends during his brief stay, then settled into the bucket seat, ready for whatever was to come. This time there was no heavy acceleration—only a barely audible throb as the space-craft pushed itself out of the weak gravity field of the satellite. The descent to Earth was accomplished by air-braking, the vehicle sweeping in a vast arc around the planet before using jets to control flight. They settled upon the flat roof of a tall slender building in the centre of the metropolis which he had left a fortnight earlier.

High in the sky, against the glare of the artificial suns, the minute saucers of the satellite glittered like stars. He regarded them pensively, thinking of the other immigrants, like himself, who were there, suspended in space, comfort-

able perhaps, but without any hope for the future.

He was ushered out of the rocket to an outbuilding on the roof, then through a sliding door, between the guards, and into an elevator that fell noiselessly into the depths of the building. Increasing air pressure made his ears click uncomfortably. He swallowed to equalise the pressure—but his mouth was dry and the effort was painful.

He was deposited in a circular room with a simple metallic chair and table, and told to wait. That was easy—there was nothing else he could do but wait, but as he sat there he experienced a vague unpleasant awareness of watching eyes. The walls were quite smooth and of unbroken surface, but he realised that they were no guarantee of privacy. He wondered how long he would be left to cool off in that tiny cell—minutes or hours?

Three days passed by—three uncomfortable days that nearly drove him insane. At

intervals the door slid open, and one of the guards deposited a bowl of thick syrupy gruel on the table; he found it unappetising, but it kept hunger at bay. There was no bed or mattress on which he could sleep, but he managed to rest by lying on the hard floor, using his rolled-up coat as a pillow. He felt unclean and weary and impatient. Since the moment of the i-rotation he had not shaved, and his face was already covered with a substantial bristly beard. He decided that it was all part of the demoralising procedure, calculated to wear down any stubbornness in the victim, and to produce an unfavourable impression on the jury—if such a body existed.

It all came to an end quite suddenly, when he had just finished his tenth bowl of gruel, and was earnestly hoping that he would never have to start on the eleventh. The door opened with a smooth hiss, and two guards stood at the entrance, beckoning him. He

staggered out thankfully, and found himself being supported under the arms. Back into the elevator they went, then down again, and finally out into a wide, brightly illuminated corridor that terminated in a black door.

They went into a large grey room, and stopped in the centre. Ingram looked around with curious interest. This apparently was the courtroom, where he was to be tried, but there were no seats, no judge, no jury—nothing at all, except a massive gleaming machine, atop of which, half hidden by projecting control panels and instruments, sat a small wizened man. The guards saluted, then stepped smartly to the rear, leaving Ingram to face the unwavering gaze of the master of the machine.

"Charles Ingram," came a thin reedy voice—whether from the man or the machine he could not at first decide. Then the thin lips opened slightly. "You are called before the adjudicator to





make whatever statement you wish in your own defence. Allow me to explain. This apparatus is an electronic brain of strict impartiality, which receives the evidence presented to it—both for and against the accused person—then, after a scrupulous computation based on facts, circumstance and motive, delivers its judgment, and specifies the punishment to be awarded in the event of a conviction.

"The charge against you has already been recorded—that of illegal time immigration. The State evidence for the prosecution has already been absorbed in the circuit. The fact that you are the originator of the process of i-rotation is a very important factor in your indictment and trial. You are now invited to speak in your own defence."

Ingram stood appalled. "Do you mean that I am to be condemned by a machine without even hearing the case against me?"

"It would be wrong for you to hear the State evidence,"

stated the man on the adjudicator. "Your judgment would be coloured by what you heard, and you would be tempted to distort the truth in order to present your own case in a more favourable light."

"Then what am I to say?"

"You may say what you wish, bearing in mind that the charge is illegal time immigration."

"But I didn't know it was illegal . . ."

"Ignorance is no excuse in law."

"I am a scientist of the twentieth century. What do I know of time immigration laws in an unborn future? I experimented with i-rotation in good faith."

"All time immigrants arrive in good faith. It does not alter the law."

"But—somebody had to make the first time journey. There had to be an original i-rotation, otherwise time travel would never have been achieved."

"Obviously," observed the

other tonelessly. "There is always a first of everything. That is neither a merit nor a demerit. The charge is illegal time immigration."

"But I ask for nothing other than the right to return to my own age. I have personal troubles of my own to attend to."

"You are not here to demand rights. You are here to be judged, and to state why you think judgment should be in your favour."

Ingram shook his fist at the little man. "This is a travesty of justice," he shouted. "How can a machine decide the fate of any human being? It is barbarism of the worst kind!"

The man on the adjudicator regarded him patiently. "If you have nothing more to say . . . ?"

"I have nothing to say to a machine . . ."

"Take him away."

The guards stepped forward and pulled the struggling Ingram backwards out of the room. The trial was over.

In the circular cell once

more he sat on the chair with his chin in his hands and resentfully reviewed the events of the past hour. Perhaps he had been a fool. If the adjudicator really based its verdict on logical computations, then he had done virtually nothing to save his own skin. He could have lied—manufactured some fantastic story to sway the impersonal verdict to his own side. But somehow he knew, with his trained scientific mind, that facile lying wouldn't have come easily; accuracy—an almost pedantic accuracy—came naturally to him. If the adjudicator also recorded intonation and inflexion, and could detect insincerity, then he would have achieved very little either way. He resigned himself to what he considered to be inevitable—it was only a matter of time to the execution.

The guards returned after two hours.

"Well?" asked Ingram. "What's the verdict?"

Their heavy features re-

mained impassive and uninformative. "You'll find out soon enough, old timer."

He was conducted to a different level, and found himself in a familiar room, standing before a familiar desk facing the sad, drooping features of the Provost Marshal.

"Charles Ingram," the Marshal announced, reading from a slip of paper, "you have been fairly tried by the electronic adjudicator, and the verdict recorded is 60, 95, 40."

"What does that mean?" Ingram asked.

"It means," said the Marshal slowly, "that you have been found guilty, and are sentenced to immediate execution in the nuclear chamber."

Even though everything had happened as he had anticipated, Ingram could not avoid a distant shock. The worst possible occurrence in imagination is never so bad as the stark reality. A wave of sickness swamped him; the room seemed to spin and

waver like an unsynchronised video picture.

"You won't kill me," he shouted defiantly, taking a step towards the Provost Marshal.

"Hold him," ordered the latter. The guards closed in, and at the same moment Ingram felt the vertigo return, more insistently and violently. The room was dissolving before his eyes, breaking up into fragments of distorted light; the hard grip of the guards' hands became feathery—then disappeared. There was momentary blackness, then bright blinding sunlight, and a terrifying sensation of falling. A vast yellow surface was rushing at him—closer and closer—until it struck him brutally on the head and body, and brought impenetrable night . . .

INGRAM sat up slowly and painfully, rubbing his throbbing head, and peered through narrowed eyes into a glaring wilderness of sand and sky. Thoughts filtered into his

brain with great difficulty—obscure interpretations of his new environment mingled with fleeting unreal memories of what had gone before. The Provost Marshal was gone—together with the guards, the room, the city—everything; and in its place was desert land, looking baked and arid, but wonderfully twentieth century. Far away, to the east of the sun, a number of white cubes wavered in the heat haze—Arab dwellings, without a doubt. More and more it was forced upon his consciousness that he was no longer in the future—nor in America—but in a tropical land. He had a vague uncomfortable feeling that he was in Africa, and that this was the Sahara Desert.

Cautiously he picked himself up, and stood tottering and perspiring under the stabbing fingers of the sun, then step by step made his way towards the distant village. In due course the explanation came to him—a cool and refreshing stream of logic in

the heated torment of his body and brain. He had finally caught up with the destruction of *i*-rotation equipment by Breen. Some seventeen days had elapsed since his departure, and the scene he had witnessed in two dimensions—Breen smashing tubes and clipping wires—had finally attained reality. The *i*-rotation had been effectively cancelled; the time field had collapsed, and there had been nothing to hold him in the future any longer. He had automatically returned to his own period.

But the displacement in distance—a displacement of thousands of miles from America to Africa . . . ? That was a more difficult problem to solve, but eventually he arrived at the answer. He had travelled physically—spatially—in the fourth dimension—along Highway *i*. At the collapse of the *i*-field the distance he had journeyed was converted from a fourth dimensional length into a third dimensional displacement; a curved period of time into a

linear distance of familiar space. It was as simple as that. Merely the rotation of one length into another.

The squat white houses were nearer now, and he could see figures moving between them, and to the right—yes, unmistakably a camel. The scene swam before his eyes like an incandescent vapour, and the sun on his head was a consuming furnace. Before he realised it, he was on his knees in the burning sand, and sinking quickly into a sickening blankness...

And then, immediately, it seemed, he was staring at a smooth white wall, pierced by a long rectangular window having Venetian shutters. He was lying in a bed, between cool white sheets, and there were other beds around him, arranged in rows on either side of the long room. Through a violent headache one word filtered into his mind—hospital.

During the next few hours things happened which failed

to make coherent sense to him, because he was not yet fully conscious. A pretty uniformed nurse came and went several times, speaking softly in a strange tongue. A smooth young doctor materialised and injected something into his arm. Later he felt better, and later still the doctor came back.

*"Alors, mon ami. Et comment ca va?"* He had clean regular teeth and a pleasant smile.

"I'm sorry," Ingram said quietly. "I don't understand."

*"C'est un Anglais,"* came the liquid voice of the nurse.

*"Non—non,"* said the doctor. *"Un Américain, je crois."*

Then, speaking quite good English, he continued: "You are an American—yes?"

Ingram nodded. "Where am I?"

"This is the Michelet Hospital at El Biar—close to Algiers. You were found in the desert—south of Biskra—by Arabs. You have been very sick, but soon you will be well."

"How long have I been here?"

"A month—perhaps a little less."

"A month!" Ingram repeated in astonishment. "Have I been unconscious a month . . .?"

The doctor nodded. "Yes. You have a—what do you say—a fracture of the skull. There was also shock from the sun. You are not accustomed to the Algerian sun in summer."

"I guess not. How soon will I be well?"

"A few weeks, perhaps. It depends. Do not worry—we shall communicate with the United States consul."

"Yes—do that please," Ingram urged.

Three weeks passed by in the French hospital—three idle, pleasant weeks. An official from the consulate visited him, and listened to a story Ingram fabricated of exploration and lost bearings with candid disbelief written in his eyes, but he promised to arrange routine details such

as a passport, money, and a ticket to the U.S. as soon as Ingram was discharged. And he sent American papers and magazines for Ingram to read.

It was in one of the New York dailies that he saw the bold italic headline:—BREEN INDICTED FOR HOMICIDE. The name struck a familiar chord in his mind, but it was several seconds before he could place it. Alarm gathered within him as he read on—"Raymond Breen, thirty-two-year-old development engineer of New Jersey, today faced the jury in one of the year's most sensational murder cases. Accused of slaying colleague Charles Ingram in order to steal his wife, Breen is alleged . . ."—and then further on—" . . . a fantastic tale of time travel, which, if true, introduces the knottiest legal problem in history—can a man be murdered if he is still alive in a future world? Verna Ingram, wife of the victim, turned State witness, and declared her intention to help convict Breen. She de-

scribed her affair with him as 'midsummer madness'."

Hurriedly Ingram scanned through the other papers—some of more recent date—seeking the outcome of the trial. And there he saw, in a banner headline, BREEN CONVICTED, and underneath, *Chair for Time Slayer*. He was hardly able to comprehend the terse sentences of the report, so great was the turmoil of his brain.

"... the jury returned a verdict of first degree murder ... in the final speech for the prosecution, Attorney Fisk emphasised that Breen was on trial for actions committed in 1954—not at some unknown and unspecified point in time. If time displacement of the victim were a valid defence, then every killer merited acquittal, since all murdered people had been alive at some period of time. To say that the victim was alive before the act of homicide was as useless a defence as asserting that he would be alive at a future date ... Breen's motive was

to secure the permanent removal of his victim from this world in his lifetime, and he succeeded ..."

Ingram put the paper down and subsided on to the pillow. So Breen was to fry—for a murder he had never committed! The intention had been there, no doubt, but the irony of it was that the very act of destruction that had been intended to leave Ingram stranded in the future, had actually brought him back to the twentieth century. Breen had been convicted—and he didn't even have the consolation of Verna's love. All the papers made it clear that she had undergone a complete reversal of affection once she had discovered the murderous intent of her lover.

He looked ahead into the near future. When he was fit, and back in New York once more, he would take up his life where he had left off, with Verna beside him once more. But this time he would ensure that she never had any cause for complaint, and was never

driven by boredom into the arms of another man. They would move out of New York—to a quieter spot, where he could quietly, and with, perhaps, a little less enthusiasm, continue his research into i-rotation and time travel, and at the same time enjoy a more personal relationship with his wife. And as for Breen—well, he had got what he deserved. Or had he . . . ?

Ingram had been close to death himself, in an age not yet born, at the hands of men who would not even know the meaning of life for hundreds of years. He had known at that time how pleasant life can be—even with the prospect of permanent imprisonment ahead. Breen had been con-

victed on a false premise—the victim had returned, bruised and shaken, but alive. There could be no homicide—and no chair.

He called for the nurse, and she came smiling. “Consul—*parler avec Consul*,” he demanded in halting French. She understood.

About twenty minutes later the official from the Consulate arrived at his bedside. “Well, Ingram, what’s new?” he asked.

Ingram said: “I’d like you to send an urgent cable to New York for me. To the District Attorney, City Hall. ‘Raymond Breen did not kill me. I am alive and well . . . Charles Ingram—the time traveller.’”



# BLEMISH



by

John Christopher

*Illustrated by Davis*

***There is an old saying—"There are more outside than in." Here is another way of putting it.***

Sunlight flooded through the open door of the forge, making friendly combat with the flames climbing up from the smith's fire. Joe Bredon, the smith, stood by his anvil hammering glowing metal into shape. He heard no noise of approach under the ringing clash of his own work, but the visitor, standing in the doorway, blocked out some of the light.

Joe Bredon looked up, shading his eyes. It was a young man—perhaps twenty-four or five—fantastically dressed in city clothes. Joe gave the horseshoe one last titanic pat and greeted the stranger.

"Mornin'. Anything we can do for you?"

The young man smiled with a practised ease that did not conceal his uneasiness. "Guess it's the other way round. I want to help you. I represent Harkaway and Cummings, by the way. Biggest names in TV. Our new

model, GK34, is just what you want for your home entertainment. Full spectrum colour, stereoscopic vision, five thousand miles range, two feet screen . . . and very easy payments. And if you have an old H. and C. model we'll trade it in for you at fifty per cent. of cost price. That's to show you that Harkaway and Cummings stand by their customers. Can I bring a set round to you for demonstration?"

Joe Bredon said laconically: "This your first trip, son?"

The young man faltered. "Well, yes," he admitted. "I only finished Salesman College last month. What did I do wrong?"

Joe Bredon said: "We don't use TV here, son. Likewise we don't use magnet sweepers nor frozen foods nor autogyros."

"Ah!" the young man said. "I see now. Some of our competitors have gypped you. Not every firm has the high ethical standards of Harkaway

and Cummings. Now with our products you have a five year guarantee of free servicing—can you ask for better than that?”

Joe Bredon said patiently: “You don’t understand me, son. We don’t want any contraptions from any firm. We just aren’t interested.”

The shocked surprise was excellently registered; the young man congratulated himself inwardly as he produced it.

“But if you don’t have TV you don’t know what you’re missing! Girls, bands, comedians, thriller serials . . .”—he glanced speculatively at the brawny smith—“ . . . more girls . . .”

Joe Bredon said: “You’re wasting your time. Where you come from, son, that may not count for much. But you’re wasting my time, too, and I have two horses to shoe and a sermon to prepare before I go to my dinner.”

“So you’re a preacher, too!” the young man said. “Why, only last Sunday the Ace Network ran a Church-in-the-

Hills programme, right after the Follies. And next week there’s the planet-wide hook-up of the arrival of the Galactic Ambassador. There’s an inspiring scene for you. That will be something to write a sermon on.”

Joe Bredon said: “I’ll have to get Henry Tysing to paint us a new name-board. Seems clear you didn’t see the old one. You don’t know the name of this township, do you?”

“Well, no,” the young man admitted, “I missed the name. But about these TV sets . . .”

“So I reckon I’d better tell you,” Joe Bredon said. “This is Swan Upping.”

The young man stopped at once. “Swan Upping!” he exclaimed. “You mean, the . . .”

“Yes,” Joe Bredon finished for him, “—the nuthouse. Mornin’, son.”

The Galactic Ambassador was a little staggering, at first sight. Life on the fourth planet of Sirius had found its

dominant form amongst the octopods and the Ambassador was rich in the possession of eight flourishing tentacles, on which his small body sat like an afterthought. The incongruity was enhanced by the slurred, but correct and coherent, English that issued from the small beaked mouth—the Ambassador had learned the language during the eight week voyage from the Galactic Capital. The World President, receiving him, was aware of the power vested in this strange creature, and had no desire to laugh.

The Ambassador said: "I think we must recapitulate the position, Mr. President, so that you will fully understand our situation and the purpose of my mission. In the first case your planet, of course, has been under Galactic surveillance for the past million years. Careful surveys were made at five hundred year intervals, without any interference, since interference, except when absolutely necessary, is abhorrent to the

Galactic Culture. Quite frankly we did not expect the fundamental problem of your suitability for inclusion in the Galactic Culture to arise for several thousand years yet. However, our last survey, two years ago, had the shock of encountering an exploring spaceship half a light year outside the confines of your solar system. In five hundred years you had achieved a technological advance that is—you will be proud to learn—unparalleled in Galactic history. To advance in that time from animal transport to a gallant, if foolhardy, attempt at interstellar travel . . . quite simply, we were amazed.

"As you will remember our survey ship communicated with yours, gave it a brief outline of the nature and extent of Galactic Culture, and sent it back to your planet with instructions that you should prepare for Ambassadorial inspection—the essential and time-honoured preliminary to inclusion in Galactic Culture as a member state. I believe

you were also informed that there have been cases in the past where inspection has revealed a civilisation so depraved that, as an act of kindness, it has been necessary to atomise the offending planet. I do not imagine that that will be so in this case, but it is necessary to warn you."

The Ambassador sprayed four tentacles forward in an expansive gesture that might have meant anything. The President nodded soberly.

"Well," the Ambassador said easily, "what shall we look at first?"

"This," said the World President with modest pride, "is the highest residential building on the planet. We house thirty thousand families in this apartment block alone. Fifty elevators, TV connections to every room, ten swimming pools, over a hundred built-in shops and a gyro landing base on the roof."

The Ambassador looked up at the block. It climbed

effortlessly away into the withered blue sky.

"And all this area, of course," the President went on, "is under direct weather control. One hour's rainfall every twenty-four hours, between two and three a.m. So the fullest use can be made of the sun parlours laid out on every level. Though many people prefer to use the sun-ray lamps in their own apartments. They find them more convenient."

"A typical factory?" the Ambassador enquired.

"Absolutely," the President confirmed. "Plenty of air and space and music from loud speakers to provide a steady rhythmic background. Everything fool-proof. There hasn't been an accident here in over ten years."

"And the work?" said the Ambassador.

"All very easy. Simple mechanical jobs—machines do the hard work. And a statutory twenty hour week with

four weeks' holiday every year. No one lacks leisure."

"Leisure," the Ambassador said, thoughtfully. "I should like to see some examples of leisure activity."

The autogyro hovered at fifty feet, the guarding police vessels drifting about them in a respectful circle. Beneath, on the oval of green turf, twenty-two opposing figures sweated and strained to gain a few inches with a leather ball. Around them, terraced up to the sky on all sides, more than two hundred thousand spectators surged and yelled in unison.

"Football," the President explained. "A very popular game."

Another crowd, barely fifty thousand this time, hushed and tense, watching half a dozen superbly proportioned girls swooping and gliding in exquisite patterns, white flashing figures against black ice. The gentle blare of waltz music behind them. Spaced

out at the periphery of a circle, they suddenly turned, leapt to seemingly certain collision at the centre, swerved and passed precisely, three between three. The exhaled sigh of the watching crowd was the gasp of a winded giant.

This crowd was more than a million. Spread out over the great plain, their faces were a white upturned sea, craning to watch the sky that arched over them. Through the air the coloured gyros flickered and danced, the long rod stretching from the nose of each plane to butt the vast bobbing ball towards the great suspended hoops at either end of the mile-long pitch. They weaved in dizzy convolutions and hundreds of thousands of necks slowly twisted to watch their flight. With a quick thrust the great ball was bobbing away towards one of the goals.

"Airball," the President said, "a new development. The ball's filled with a mixture of light and heavy gases;

density just above that of air. Like thistledown, you might say. It's a very popular game."

"These are all hospitals?" the Ambassador asked. "You have a lot of sickness?"

"Practically none," the President affirmed. "But we include the nurseries with the hospitals, you know. When children are delivered the mother leaves them here. The parents visit very frequently, of course—as much as twice a week in some cases—but the babies are under the care of experts so that the parents are freed for other activities. When the child is five it goes back to the parents and stays with them for three years before going away to boarding school."

"I see," said the Ambassador.

"The only real hospitalisation we now have is psychiatric," the President went on. "That big building in the centre. We do a lot of leucotomies — shearing the

frontal lobe of the brain away to relieve depression. It makes them happy. Makes them a little irresponsible as well, of course, but we are past the stage of individual responsibility."

"Yes," said the Ambassador.

"And this is our main cultural centre," said the President. "Nine million cubic feet— isn't that something? Everything is co-ordinated from here on perfect democratic lines. We have a first class sampling system which gives us a precision forecast of public taste. We know just what people like and we are able to give it to them. The result is that we never print any book now in a run of less than five million—and we never have more than ten thousand left unsold. That's accuracy to within point two per cent!"

"The Crematorium," the President said.

"For your dead?" the Ambassador asked.

"Yes. Cremation's universal now. All the big new residential blocks have special shutes built in—you can place a body in at the top and it's carried straight down to the crematorium and disposed of within ten minutes. All hygienic, no fuss."

"No rites?" asked the Ambassador. "I thought I saw on your TV recently . . ."

"Well, yes," said the President. "Some people find it quaint to take the ashes of their friends and relations along to one of the churches we keep as curiosities and sing a few hymns. It's like collecting stamps, you know. Individual kinks—not harmful."

They were back in the President's office. It had been a busy and rather nervous week, but the President felt pleased at a critical job well done. He leaned back, adjusting the dial of his oleofact to release an aura of pine trees round him—his favourite smell.

"I think I've shown you about everything, your Excellency," he said. "If there are any questions . . .?"

The Ambassador gestured ambiguously with two tentacles.

"No questions. I've almost made up my mind. There's only one thing. It is usual for an investigating Ambassador to choose some small district at random, for closer inspection. Have you a World Gazeteer?"

Tentacles flipped carelessly through a great index. They opened a page, and delicately touched a line.

"This will do. Swan Upping. Will you take me to Swan Upping?"

The President smiled.

"You'll have to choose again, your Excellency. That's a—uh—an asylum town. It's for anti-socials, crackpots."

The tentacle stayed firm in its place.

"Nevertheless, Mr. President," said the Ambassador, "I should like to go there."



Outside Swan Upping there was a signboard—BUGGIES ONLY — POSITIVELY NO AUTOMOBILES. The President stopped the car.

"We can ignore that," he told the Ambassador, "for an occasion like this."

But the Ambassador was already getting out with a swift, flowing motion.

"No," he said, "we will not ignore it. We will go in on foot. Tell your police to wait here."

They walked into the village. Each house had clearly been built by hand and reflected the individual character of the builder; yet there was a strange sense of pattern over-riding the minor variations. The President, trudging beside the Galactic Ambassador, let his eyes rove unhappily over the primitive, cobbled roadway, without either drains or sidewalks.

"It's amazing you should have picked on our one blemish," he said. "Of course, we don't have many small town-

ships, but I could have shown you thousands with every device hygiene and planning can provide. And chance led you to this!" He paused in disgust as an infant of less than four toddled across their path from one front porch to an opposite one. "Primitives!"

They came through into the main street, and the Ambassador halted. The President pointed to the square-towered building dominating the rest.

"The church," he said. "They take that sort of thing seriously; natural primitive reaction, of course."

"And this?" asked the Ambassador.

A procession was coming down the street; black carriages pulled by sleek black animals. Their iron-shod hooves drew the bright fire of sparks from the cobbles beneath them.

"A funeral," the President said disinterestedly. "They actually *bury* their dead. The animals are what are known

as horses—they use them here still for locomotion. In the real world they were extinct twenty years ago.”

Opposite the church the procession drew up. Men in solemn black lifted the coffin from the hearse and carried it up stone steps into the churchyard, the mourners a slow eddy behind them. From the open door of the church organ notes began to peal.

“Our modern TV organs,” the President remarked, “have ten times the range and volume.”

In the churchyard the grave gaped, clay-yellow in the green grass. The following mourners began to sing, their voices rising clear and steady above the organ notes.

‘Behold, all flesh is as the  
grass

And all the goodliness of  
man

Is as the flower of grass . . .’

When at last they stopped, the burly figure of Joe Bredon stepped forward. His voice

was gentle and strong as he began to speak:

“Man that is born of woman . . .”

In the President’s office for the third time the President waited confidently.

“And the decision, your Excellency?” he asked.

“It has been reversed,” pronounced the Ambassador. “When I saw the great apartment blocks where thirty thousand families were boxed in together, when I saw your factories where no man can take a pride in the work he does, when I saw the barren horror of your people’s leisure where the million are entertained by the antics of a tiny few, when I realised you have succeeded in destroying the sacred ties of the family and in your arrogance and overbearing pride have lost sight of the earth by which you live and the spirit by which all races are judged—when I saw these things there seemed only one decision. That this planet,

sterile and withered as it is, should be atomised at once, for the Galaxy's good and for your own peace.

"But in one small township I have found spiritual life still strong, and by reason of that your planet is reprieved. You were on the right track once; you must retrace your steps to find it."

The President found words. "And destroy our machines? We live by them—millions would starve . . ."

"The machines are un-

important," said the Ambassador, "except in that your cleverness with them has led you to the pride and stupidity in which you now exist. We place no ban on machines, except spaceships. Until you have found humility and decency again you must not contaminate other worlds. That is our decision. In five hundred years a successor of mine will review it. Have you any questions to ask?"

"No," the President said slowly. "No, your Excellency. No questions."

### THE BEST LAID SCHEME

is the enticing title of next month's long novel by Kelvin Strike, the story of the biggest, most important undertaking ever placed upon the shoulders of one man. J. F. Burke comes back to our pages with a splendid story, *For You, the Possessed*, and two other known-to-you authors return—Dan Morgan with *Amateur Talent*, and Martin Jordan with *Cuckoo*. And there will be the usual full supporting features—not forgetting the fourth winner in our Amateur Authors' competition.

AUTHENTIC—A MONTHLY MUST!



## (7) JUPITER

Mass, 317 times that of Earth. Radius, 43,350 miles. Density, 1.34. Temperature  $-140^{\circ}$  C. Albedo, 44%. Period of axial rotation, 9 hrs. 55 mins. Period of orbital rotation, 11.86 years. Distance from Sun (mean) 483 million miles. Distance from Earth (mean) 473 million miles. Orbital velocity, 8.1 miles per second. Escape velocity, 37.0 miles per second. Gravity, 2.64. Inclination,  $2^{\circ}29'29''$ .

Jupiter is bigger than all the other planets in the solar system combined. If it were hollow it could contain 1,312 Earths, yet it has only a quarter of Earth's density. Much of this bulk, a depth of about 8,000 miles, is believed to be the planet's atmosphere, a stormy mixture of ammonia and methane. Below this is a depth of 17,000 miles of frozen gases and ice. A central core, 37,000 miles in diameter, consists of metallic rock. The planet's low density is explained by the fact that Jupiter may be at least 80% hydrogen, in ordinary

molecular form in the outermost layers, but metallic in the central core.

The period of axial rotation is remarkably short for so large a planet. Jupiter spins on its axis 27 times faster than Earth—28,000 miles per hour—so that a year on Jupiter is 10,500 days long. But the speed of rotation varies with the latitude; the equator rotates once in 9 hrs. 50 mins. 26 secs.; the polar regions rotate once in 9 hrs. 55 mins. 24 secs. This proves that the observed surface is not solid. What we see when we look at Jupiter is the top of the very thick atmosphere. This atmosphere makes the planet seem very bright; only Venus is consistently brighter. Most of our knowledge of Jupiter concerns movements and changes in the appearance of the atmosphere.

Jupiter has eleven moons, four of them being the earliest celestial bodies to be discovered by telescope, and these four can be seen with ordinary binoculars.

# NOW CONSOLIDATE

*I consider this letter to be interesting to all readers, so I am printing it in full.—H.J.C.*

Dear Sir,

This letter is to congratulate you on winning a battle in what must be—for you—a long and arduous campaign, the struggle to get British science fictionists to read British science fiction. Now, as one of the conquered, let me be suitably grateful.

Yours is a very interesting problem, in which, as editor, you are naturally more involved than is a mere student of the by-ways of literature. For good SF in this country there is no dearth of readers (I checked, earlier in the year, with the English distributors of what we must all agree is at present the finest magazine in the field, and they claimed a circulation of 40,000 per month). These are all a potential audience for the native article. So the difficulty lies not in the audience but in the article.

Let us admit there has been and still is a prejudice against British SF, and seek to find the reason for it. I hope my conclusion will be correct, for if so the remedy, sir, lies in your hands. The father of SF was English; H. G. Wells was born in Bromley in Kent. His "Time Machine," the arch-type and finest of all time travel stories, was published five years before our present (uncomfortably?) exciting century began. But it was in America, the New World—

and quite appropriately—that the first SF magazines appeared. That was in 1928. When did its first British counterpart appear? I have never heard, and should be interested to know. (*Scoops*, first issue February, 1934.—H.J.C.) The first one I remember was "Tales of Wonder" (No. 1, 1937.—H.J.C.), a somewhat timid publication. Only until these last few months could we say, and then somewhat circumspectly, that there was a flourishing SF magazine on these shores.

Yet over the years, much of the best science fiction has sprung from English pens. One thinks immediately of, in the first flight, Olaf Stapledon, Aldous Huxley and George Orwell, and then of Arthur C. Clarke and William F. Temple. They stand as proof that the well of our imagination is not dry.

But—their work has been (has had to be) published either in book form or, primarily, in the SF magazines of the U.S. The partial explanation is obvious: there has been no magazine over here of sufficient quality (or budget!—H.J.C.) for their consideration. I say partial because two other factors enter the case: one, dollar-sterling balances being what they are, it is financially more rewarding to be published in America, and two, authors of such standing as Huxley would probably never have considered publication of "Brave New World" in serial form. In America, however, the best SF novels do appear in serial form before their arrival, manicured, in

boards (a useful metamorphosis, during which dead wood and loose ends can be hacked out or re-woven).

We have then, both audience and writers. All that is lacking is an intermediary, an impresario to introduce the one to the other. In short, an editor; a man with taste, ideals and originality who will do for this wonderful bye-road of literature what Cyril Connolly did for the highways with his "Horizon." You, sir, will probably be too modest to enquire if I think he has arrived upon the scene. But recent issues of "Authentic" have led at least to a pondering of the question.

Believe me, if I have read the omens aright, "Authentic" is on a skyward trail. And cheers all round! Nobody wishes to decry the American magazines; that would be merely idle, especially over stories that strive for the most part to be above nationality; but we shall contribute most considerably to this vigorous genre only when our magazines stand acknowledged on a par with theirs. And how refreshing to read of Blackpool being atomised, instead of Los Angeles!

That is the main burden of my song, but I cannot resist adding as well—at the risk of being tedious, as all bores say—some specific criticisms of "Authentic."

1. Every so often (no doubt the critical margin could be worked out)

a dud story creeps into every periodical. Editors can't avoid it—but they can avoid dull or clumsy titles. Even dreary stuff like "Immortal's Playthings" might be called "Live On, My Puppets!" or "Thud and Blunder" or . . . Passed to you.

2. British SF mags must learn from U.S. ones the simple pseudo-psychology of: Nothing succeeds like success. I get giddy feelings when I see a patent scrounge for custom, *i.e.* Editorials with pathetic headlines like "Don't Forsake Us." Even if on the rocks, which I am certain you cannot be now, please don't give us an inkling of it.

3. Most forms of story rely on character conflict. SF does not have to. Such appendages as two fellows squabbling over Mabel at Moon Base A are therefore generally unnecessary. Anyhow, they mostly do not ring true.

4. The implications of time and space travel and of life on other planets are so vast that their challenge to a writer of merit must be limitless. It is in their philosophic implications that I think the richest vein lies. From it, we get the great stories, "Fury," "Metamorphosite," "Earth Abides" and the "Foundation" sagas. For it, we read science fiction.

Brian W. Aldiss, 107 Hazel Crescent, Kidlington, Oxford.

# TRANSITION

by DAVID WILCOX

*This third winner in our amateur authors' story competition has something of the beauty and precision of a classic.*

Unrelated to hope, his dreams had an orgiastic intent. Small reminiscent islands formed out of his past. In the imagery of his mind, pain came back from that past like seismic reverberations of a distant agony.

From Gault evil had gone, and, as a boomerang, had returned. Life was feeble in the body which lay in the parapsychological ward. But the thoughts were active in a web of memories. Implacably, the evil redeemed these islands of memory. Populated them with voices, then faces, that resolved from vagueness into movement.

Summer, and a Sunday evening. The heat was idolatrous, for because of it churches were empty, and the sweltering people of the city were either

broiling in the sun or soothing themselves in some cool hide-out. The air was stale, and lax with dead odours, scoured from a thousand dubious sources. The smell of yesterday was baking in the foetid, raddled atmosphere.

"So you've just come out of that hospital, have you, brother?" said the fat man curiously.

"Yes," Gault replied indifferently. And picked up his drink with an abstracted hand.

They were sitting in a bar opposite the hospital. Alone, except for the bartender, who was flicking flies off the exposed and wilting sandwiches. The fat man looked as if he was an habitue of the place. When Gault had come in he was propped in the same position as he was now, boosted up

bulkily by a high stool and an elbow. Bodily inert except for an active hand, which rapidly disposed of the drink Gault had offered him.

"Was in there myself," he continued expansively. "Same complaint as you. Did they give you that interstitial treatment?"

His pulpy red face displayed hope that the answer would be yes.

Gault nodded.

The fat man was satisfied. He was ready primed to be at once sympathetic and pessimistic.

"Nasty thing. Those gamma rays can leak out and irradiate your whole body." He raised his glass. "Cheers."

"Cheers."

Gault stared balefully out at the scrubby line of devitalised trees which lined the edge of the road, in a shimmering haze of heat.

Then his eyes moved on to where the pristine whiteness of the hospital walls gleamed across the road. The sight of them made his thoughts even

more malicious. If they hadn't broken that cobalt-sixty machine, he thought, then I wouldn't have got radio intoxication. And if I hadn't got that I would have saved a lot of time. That was the shame of it, so much waste. And with my work I could use a hundred years of living.

"Knew a guy whose whole inside lit up like a candle," the fat man declaimed mournfully.

Gault looked him over distastefully. He was hot and sticky—almost adhesive. The sun was sweating out his alcoholic core. A degenerate type, Gault observed, and hatred swelled inside him. Then like a well-trained soldier the hypnotic power rose and awaited his desire. Pleasurably Gault willed the fat man to get out of the bar.

Speedily he went, with a momentum which seemed to seize his body with a savage impetus.

And hop down the street, Gault willed as an after-thought.



Like an obese toy the fat mancapered grotesquely along the pavement, until at last on the corner the spasm left him and his body subsided, like an old coat dropped from a peg.

Even the bartender was astonished at this spectacle.

"That's the quickest he's moved in ten years," he remarked. "I wonder what could have come over him?"

"A fit, maybe," Gault said.

He walked out into the street, that ill-humour preceding him. Souring the day with a malignancy born of the heat that lay over the city.

A lorry cruised by, showering insecticide over the bug bitten trees. Gault stepped back, avoiding the stricken insects fluttering down. Then he moved on, shoes spurning the pulpy wake of the lorry. Moved on out of present memory, into the unconscious void of the past that was tainted with evil.

Gault could now muse on this as his alert mind lay trapped in the tranced condition of his body. This

experiment had been nothing more than an egoistic splurge of self-advertisement. And he cursed himself now for indulging the folly of it. It was dangerously easy, he thought, for a person in the full stature of his power to yield to a little personal trumpet-blowing and strut the world as if it were nothing more than a spectator to his deeds. He had indeed forgotten the philosophy in which he had once believed. To live like the Spartans; humbly. Lest the baubled panoply of false splendour incurred the jealousy and wrath of the gods.

For the psychoanalysts at the clinic were of the opinion that he was suffering from a severe case of self-hypnosis, marked by delusions of grandeur. Gault had scoffed at this and replied that he would proceed to hypnotise himself now just to prove them wrong. And, he added, seeking to abash several detractors, he would awaken at twelve o'clock the following day to the very minute.

And he had awoken. But at midnight, not noon as he had predicted. That had been the first flaw in his plans. The second came when he had tried to get out of bed. For he couldn't. His body would not move. At the crucial period of transition to movement it had broken down at last from the long period of strain he had imposed upon it. The power had ended at last, and had left him paralysed. Halfway to death.

For a moment panic clamoured at his brain. And, forgetting the discipline that unquestioned power had previously given him, he strove despairingly to galvanise his limbs to action. While all the time sweat gleamed out from his face, like the inarticulate expression of the pain he could not yet feel.

With a sudden lethargic yielding his body drooped. The muscles sagged despondently, ceasing their pounding against the dead confines of the flesh. Like a tired captive who had beaten long on the

prison door. Wearily Gault closed his eyes again and tried to sleep.

But the nightmarish compression remained. And the whole fantastic frieze of the past came back, unrolling itself before him in a reiteration more deadly than the original. Where, he thought, had it all begun? This impulse for perfection that had led him to strange places, bizarre murders, and finally now to expend its evil upon its creator. He couldn't remember now. Only time knew that. The past, sullied wake of time.

Even in his formative years he had yearned for perfection. The higher consciousness of intellect which segregated from emotion would make him master of any profession he cared to choose. He could live a life of fame, immune from the neurotic obsessions which so often possessed the academic mind. Avidly he read of the philosophy of Gurdjieff, which, garnered from the Asiatic religions, bridged brilliantly the conflicting spiritual

norms of the Oriental and Occidental. He too believed in the machine-like status of the human mind, and that the will was only a toy successively played with by emotions.

But if only he trained that will, what powers he would possess! Why, it would be like a new dimension of life. And he could command such as no other man before had commanded. New conceptions would arise, new tasks which would make him famous, an intellectual iconoclast of any profession he devoted himself to. And so Gault, fired by his vision, began doggedly to collect data on spiritual motivation, telekinetics, and extra sensory perception.

Soon, with the fervour of his work, he had mastered hypnosis, which, when self-induced, gave a remarkable fillip to his talents. Under these spells he appeared to become elevated to a tenuous plane of higher consciousness which increased his intellectual powers enormously. Like the Biblical prophets, enthusiasm

for his mission endowed even his average mentality under these spells with periods akin to genius.

Such power, he realised, could only spring from altruistic motives. For later, even though he became more skilled in the mechanics of his profession, they never occurred again. The skill which had grown had begun to corrupt him with its unlimited promise.

The power now was but a blueprint, boosting the inherent element for human destruction. As with the Manicheans he was now poised frailly between good and evil, and it was on a crowded 'bus one summer afternoon that the evil first manifested itself.

The journey was long and tedious, and the rhythmic motion with the thick heat, blended a soporific of boredom and weariness. Already the ennui had ended conversation, and the passengers were lolling in their seats. Like puppets, Gault thought.

Just like puppets. If I shouted now they would all jump instinctively with fear. I wonder if I might try something more subtle upon them?

No sooner had the idea occurred to him than he acted upon it. A superhuman power gripped him, shaping a demand that grew out and impinged itself irresistibly upon the minds of the others. An insane whim directed him to wreck the 'bus, and even as this thought became conscious, so motivation began.

The 'bus rocked crazily and began to swerve across the road as if it were amok, reeling from one hedge to the other in a dangerous flirtation with destruction. The speed increased until the road snaked back whitely beneath them, and the hedges blurred into a mixture of whickering green.

Yet the desire Gault had thrust on the passengers rendered them apathetic. Mutely they stared out from the berserk vehicle.

The 'bus thundered on until it came to a small bridge. In a

last cavort of torture it toppled and crashed into the river below.

Gault never knew how he managed to stagger out from the carnage. He felt only a sense of unreality, of complete remoteness from the crime he had committed. As if he were only a spectator who had inadvertently wandered into an arena of feral and animal agony.

Dimly he saw that the wheels were still spinning uselessly. Like a blinded instrument, it slavishly pursued its purpose, even though the hands which controlled it had died.

Yet the macabre power that possessed Gault allowed for no feeling of compassion, or repugnance. Until this moment, a year later, when that power had ended.

Like a river which returns inevitably to its path, so emotion had supplanted the pseudo-machine status of his mind. Can the flesh be more frail, more vulnerable to destruction than in the still

introspective silence of the hospital? Only when conscience is the sequel to evil. Gault felt its exquisite edge now and thought it unendurable.

His thoughts flowed on to final atavistic dreams. Dreams... wherein he had lost the key to his will. Telepathy was never a cold factual science. So much of it was intuition. Not the amazing retention of past memories that physical association brings, but an almost abstract awareness of the future. Perhaps that day in the 'bus he had felt a quickening of time. Had perceived five minutes before the crash that tangled wreckage that was soon to be. For a crazy second his perceptive world had reeled, forging out of the time compartment wherein the others moved—to another, which screamed out from its tenebrous gulf . . . *Danger*.

The crash had to happen. Even before he had willed it time had accepted it and sealed it irrevocably into his

life. And now, like a film strip, life went on. Each action foretold, each impression stamped with its exact date of physical realisation. There was no pure will, for the future was decided. It was merely a fatalistic instrument that acted through the intuitive awareness of the meticulously fashioned future. It was Karma, his fate. The film strip which he was privileged to view intermittently and dimly. The crash was one of the tragic incidents, and blinded by his obsession with the will, he had egotistically imagined that his will had been the sole cause. Fool, he told himself, and on that thought relaxed.

He slept, his mind sinking away to an existence replete with dreams. And his telepathic powers were strong again in the hunting grounds of his subconscious mind. The immediacy of his present life was forgotten and he remembered how once he had walked streets he had never before seen and yet mysteriously knew each grouping of styles,

even to the statistics of house numbers. An extract from Rudyard Kipling's autobiography was recalled to him. "I am in no way psychic. But once I was sure I had stepped along that perilous track." Like a pall this monstrous illusion hung over him. Shaped and coloured in some bizarre world of its own.

That world was a mirror, in which he saw himself as a reflection of indivisible time. His dream thoughts had merged from separate entities to one coherent time. He stared into the present mirror and saw his greying image, wan and ill with sickness. In that mirror others were reflected, all like time compartments of his past lives. Vicious, ludicrous and grim. A fantastic mosaic with a single theme . . . Gault.

And then beyond a small final mirror, holding a reflection of a spectral, weird-looking creature.

It had a body built like a human's for perpendicular resistance, but much larger, as

if a strong gravitational pull demanded more bulk. The face was slightly mongoloid, but all this could have been merely optical distortion. What made it weird was the suggestion of abnormal pliability. As if there were more to its body than that of a normal five-hundred-and-twenty-muscle human.

And Gault was afraid. For in his own imaginative mind and the creature's eerily contrapted body there seemed to exist a peculiar and personal affinity. As if they were but different expressions of a single truth.

For a while they scrutinised each other, immobile as statues across a timeless space. Wrought of, but now imperishable from, that time. Here for a while alien continua had merged to serve a message between two oddly related beings. What conflict that had raged in Gault was now gone. The meaning of his power was now clear. For in this infinitesimal moment of his life, transcending genius,

he had reached the ultimate capabilities of intellectual thought. Tearing aside for one transient span the veil of time to confront another time, another age, another world.

Highly receptive now, he caught easily the thought waves which radiated from the stranger.

"Do you recognise me?" the waves enquired, tersely.

"No. Should I?" Gault replied, thinking the words.

The sentience nodded gravely. "You should. For I am now what you were years ago, before you took the identity of earthly flesh."

Gault's face paled to an ashen whiteness. "N-no! It's a lie," he said aloud. "You're an illusion. I'm not well . . ." He jabbered on vainly, his mind fretting for some reasonable explanation for the being's presence.

It smiled, and spoke for the first time. "Let me suggest a ghost," it said, in smooth, unhurried English. "I know you have a psyche, which I believe is called conscience on this Earth. And I am a manifesta-

tion of your subconscious guilt."

"That's right!" Gault seized on this explanation eagerly. "I am human, and that is what you are."

With an undulating movement the creature's body moved menacingly. "Unfortunately for you, though, that is not true. You are no more a man named Gault than I am Doctor Reynolds. And to everyone else but you I *am* Doctor Reynolds. Yes," the being continued swiftly, before Gault could speak, "I, too, have an earthly body. Only, unlike you, I have not lost my way or forgotten my mission. You were given powers by the Great Ones to come to this earth and understand the people's psychology, so that eventually the remainder of us could come here and adopt human personalities easily. You were supposed to be a famous telepath. That was your identity. But what did you do? You murdered people recklessly, starting a war which should have embroiled all of

our race at a precise time, not just you personally."

He paused and pondered for a moment. "But something happened to you when you took the identity of an Earthman. Something primitive and weakening. And it appears that all of these people of Earth have vices and flaws in their characters. Like conscience for instance, which stultifies the mind with frittering worries and useless remorse. You, Gault, are an object lesson in this. There are other weaknesses too. Alcoholism, against which even I have to protect myself. All these things could kill our race when we take over human personality. It is a great pity that we have to conquer in this way. Ingratiation instead of terror. Living in these freak bodies instead of arriving proudly as conquerors. All of these earthly vices our race could succumb to—even as you must succumb to death, Gault."

But Gault was hardly listening, for now he viewed everything fatalistically. It

was Karma. Fate that all aliens should die in lands which were not and never could be theirs. Perhaps drunkenness would kill Reynolds. Or he would do something rash and someone would come, some executioner to wait until he was asleep and then kill him. And then some vice would inevitably take over that killer and he himself would be liquidated. It was ironic, really. So ironic that he found himself shaking with real spontaneous laughter.

"I wonder why it was," he said, "that the personality of a far inferior Earthman should have obliterated my own. It must have been the brash exuberance, the enticing allure of irresponsibility that caused such a devolution. All civilised beings who, tired of responsibilities, forsake their own culture for those of laxer ones, degenerate ultimately. And that was what happened to me. Or perhaps," he mused, "I really did become a man. And if I did, Reynolds, then you will too. And some other comrade will come to



kill you. Perhaps not with the drugs you gave me but with something more painful, more fitting for a noble end."

Reynolds was silent. The same thought too had occurred to him.

"By the way," Gault questioned. "It was drugs, wasn't it?"

"Yes," the other replied. "I gave them to you while you were asleep. After all I had to wait until the power had gone from you, otherwise you would have killed me. Just as the people were killed in that 'bus."

Gault heard Reynolds' voice only faintly now. This he knew was the end, for consciousness was leaving him. Fading away to the final transition of death. Wanly he could see in the mirrors the last spasmodic flickerings of his past life. He contemplated all, the vicious and the gay. Contorted now in a crepitation of final movement. Then the ephemeral figures there were gone, gone with his life from the irredeemable past, into the limbo of death.

The being that was Reynolds assumed human shape and walked back swiftly through the ward to the privacy of his own room. He felt no per-

sonal satisfaction with his mission, for with a strange sense of foreboding he knew that the thoughts of the Great Ones would now fully centre on him.

Reaching the door of his room he opened it and stepped inside. It was dark, but instinctively he reached out to where a whisky bottle stood in the shadows. Lifting the bottle, he drank avidly from the neck, hating, yet obeying his irresistible desire. He couldn't help himself, but he knew that unless he stopped this urge, someone would be coming to get him. Just as he had killed Gault.

But what the hell do I care, he thought. He didn't want to be a conqueror, anyway. It was too much trouble. Too little fun. His own world, just as this one, was ruled by fleshly greeds. And as such, contained corruption and death. As the fecund soil gives out the life of Spring, so the Great Ones had given him strength. But now it was no longer Spring, but Winter. Pulling down to pathetic rubble his small hopes and ambitions, even as the soil pulls down in its season of time the lush tapestry of Summer.



World's Work, the Kingswood, Surrey, publishers, have started a Master Science Fiction Series. The second title in the series is *David Starr: Space Ranger*, by Paul French. It costs 8s. 6d. This is a thriller in the true sense in that David Starr's adventures really do thrill. The main story unfolds on Mars, with highly laudable scientific accuracy of description, and concerns the dependence of Earth upon food produced on the Martian farms—food that is being poisoned by a power-hungry group. Perceptive readers will detect some similarity in plot between this book and *The Menacing Sleep*, a Hamilton Panther Book by Roy Sheldon. While the writing of *David Starr* is quite

competent, the story's length is similar to the Panther Book—which cost only 1s. 6d. We say no more.



*Earth Science*, by G. L. Fletcher and C. W. Wolfe, is a splendid book put out by the American D. C. Heath Company and distributed over here by Harrap at 21s. Seldom has this reviewer come across a book that seems perfect in all respects, but this is one. *Earth Science* is beautifully produced, lavishly illustrated—and weighs about two pounds! The text, which deals lucidly with every conceivable aspect of Earth from past through present to future, is really a model of instructional exposition. Every page

is enticing and exciting. Every paragraph is perfectly clear. Every word is chosen with utmost care. It is impossible to list the headings of all the thirty-four chapters in this 556-page book, but we can say that they cover rocks, rivers, streams, the sea, mountains, earthquakes, plains, plateaus, glaciers, wind, water, air, time and many other fascinating topics—all from the scientific point of view, yet eminently suitable for the absolute beginner. The book is designed as a first course in earth science. It should be on the shelves of anyone who lays claim to scientific attitude and interests. Do buy it.



*Introductory Biology* by C. W. Wood is a striking contrast from the production point of view. The book is published by Allman at 5s. 9d. and is designed to cover ordinary level General Certificate biology. It does this without doubt, and, textually, does it very well—with a refreshingly

new approach to the teaching of elementary biology. But the appearance is dull compared with *Earth Science*. The typography is severe, the illustrations too simple, the layout too pedagogic. It is so very obviously a school book. Even so, it is well worth the price, which of course is only a fraction of that of *Earth Science*. If you are not too worried about the way a book is put together, this one will suit you admirably



*Elger's Map of the Moon* has just been reprinted in a form revised by H. P. Wilkins, F.R.A.S. and put out by George Philip and Son at 4s. 6d. This is a splendid book for anyone with lunar tendencies! The map opens out to a sheet nineteen and a half inches by twenty-one inches, and is ready for fixing to the wall. All the craters are shown and the major and semi-major ones are named. A very good 4s. 6d. worth. (George Philip and Son's address is 30-32 Fleet Street, London, E.C.4.)



# Projectiles



## ★ ★ STAR LETTER ★ ★

Where is your publicity? Why cannot I find your magazine anywhere—except *one* by chance, hidden away amongst a lot of rubbishy magazines of similar titles? It was only the name van Vogt which caught my eye because my friend (a science mistress) had brought home his *Destination Universe*. Otherwise I would not have known the difference between your magazine and the others.

The story *Old Man Henderson* by a Mr. Kris Neville showed, I think, a charming turn of mind and sympathy. Thank heaven there is one creature in a science fiction magazine that does not breathe out death! Jasper was one nice thing.

My friend and I submit that anyone intelligent enough to read your stories would be a little embarrassed

by the covers. They are so like the other covers of those *ghastly* magazines amongst which I found yours. And your stories could not appeal to the people who go all out for green passion on Mars. I venture to suggest that your readers are few and select. You do not sell half a million copies. Why not? Your magazine is very good of its kind, but my friends would be embarrassed to take out in the Grammar School staff room a copy of—a magazine with a small green man in front of an orange face with a helmet on.

Please let the "Green Passion on Mars" readers have their sort of magazine cover and you have yours.

I dare guess that more people would buy *Authentic* if you had a quieter cover, but very few bank officials, teachers or doctors would like to be suspected of reading lurid thrillers. Your magazine is as different from these dreadful

creations as chalk from cheese, but the covers I have seen give no indication whatever of the contents.

If you are trying to attract the readers of those other science fiction magazines, you won't do it. They will not appreciate the more reasonable and delicate style. But you would have a very large public if you tried a *front* cover like the *back* cover. I know, because I only found your magazine by accident.

Miss C. R. Pateman, 9 Stanfell Road, Leicester.

*Thank you for a really charming and sincere letter, Miss Pateman. You will have seen by now that our covers really are distinctive. Do you like them? We cannot agree with you that readers of "ghastly" magazines cannot appreciate our type of story. One of our principles is that good science fiction can be appreciated by all. It is mainly a matter of making those other readers aware of the existence of good science fiction. But we entirely agree with you about the embarrassment caused by lurid covers. As a mark of our appreciation for your letter, we are sending you six non-fiction technical books. We hope you like them.*

## REPRINTS

I think the long novel is a good idea, but I do not think the idea of the reprints in Nos. 29 and 30

was so good. There are many fans out here who, although they think you are doing a good job, will not continue to buy *Authentic* if this policy continues. I will still buy it myself, but I think you should get new stories.

I was wondering if any reader could let me have some back numbers of *Authentic*, as they are a popular item with my library's forty-seven members. The numbers required are 1—6 and 9—15. In exchange I can offer Australian publications, fanzines and two new Australian magazines. For anyone interested in our Club, it is the North Shore Futurian Society of Sydney. We have a Club Notesheet and other things for members. I would appreciate it very much if you would publish this and ask anyone interested to write to me.

Michael A. Bos, 24 Spencer Rd., Killara, N.S.W., Australia.

*Concerning reprints, Michael, you will have noticed that we don't run many nowadays. We intend to run still fewer, but we stick to our policy of bringing to large-scale British notice really good foreign science fiction. At the same time, we are trying to build up a British team of writers—with no limit on the number. And remember, "British" includes Australians. We hope some of our readers will be able to supply you with back numbers. We would do so*

*ourselves, but they have all been sold, except file copies. Good luck to your Club, and let us have news of your activities.*

### **BINDING**

Keep up the good work on the binding. It is so much better, being able to open the magazine out flat. I have no complaints.

Mrs. Jean F. Roe, 22 Park Road West, Kingston, Surrey.

*Glad you like the improvement, Mrs. Roe.*

### **INSPIRED**

What inspired me to write was W. G. Eaton's idiotic letter (No.35). I am fifteen (or was when I read the novel in question: *The Currents of Space*). I honestly cannot find anything that could be called difficult in Asimov's yarn. If Mr. Eaton found this story difficult, it's time the voting lists were revised! Robert Clarke, 3 Merton Rd., Sale, Cheshire.

*In all fairness to Mr. Eaton, he did not say that he found The Currents difficult. His contention was that if adolescents understood it, then they should be given the vote—because The Currents is, in theme, a political story. We have no evidence at all whether Mr. Eaton found the story difficult or easy. Robert, be scientific!*

### **NEW FANZINE**

Our new fanzine will be called *Fission* and it is produced on an entirely different basis from any other fanzine. Small offset printing is cheaper and more effective. Wait till you see No. 1. You'll drool over it!

Colin Parsons, 31 Benwood Court, Benhillwood Road, Sutton, Surrey.

*We're waiting*

### **NOT A PRIG**

In A.S.F. No. 36, your five authors actually wrote five stories without using a single swear word. I am certainly not a prig, but this seems to be a real achievement nowadays. Is it not possible to have a few real space stories, instead of case histories of split-mind patients and lunatics? Let's get back to the science.

Don. V. Pull, Heath Park Road, Romford, Essex.

*We have never found it necessary to swear in Authentic, Don. At it, perhaps. And we agree with your views. On your other point, I agree that modern science fiction authors are tending to give space-travel a rest. For our part we feel our readers are more interested in stories of ideas and personalities rather than pure space opera, but this does not mean space fans will be ignored.*

the best of science fiction

---

## **The Demolished Man**

by ALFRED BESTER

The author won a four thousand dollar prize with this dynamic novel of murder in the twenty-fourth century. *The New York Herald Tribune* wrote: "It is a legitimately clued and solvable mystery problem, embedded in an opulently imaginative story, rich in odd gadgetry and culminating in a splendid surrealist sequence of pure psychological terror." This is a fantastic thriller in which the phenomenon of extra-sensory perception is convincingly projected. Jacket by Quinn. **9s. 6d.** net

## **Shadow on the Hearth**

by JUDITH MERRIL

Judith Merrill's brilliant first novel will be warmly welcomed by English readers. The story of a few crowded days in one home—after the atom bomb falls—it is a moving study of family relations as well as first class science fiction. **9s. 6d.** net

*Recently Published*

## **The Man who sold the Moon**

by ROBERT HEINLEIN

The first volume in this leading science fiction writer's 'Future History Series' spanning the years of the near future through which we ourselves will live. **9s. 6d.** net

*From all booksellers*

---

\* Write for details of the Science Fiction Book Club,  
44 Museum Street, London, W.C.1.

---

**Sidgwick and Jackson**

# Panther Books

All your favourite authors are appearing in Panther Books, which combine low-priced, fully cloth-bound volumes with imaginative and progressive Science Fiction.

160 pages  
Cloth-bound

6/-  
NET

Pictorial  
Dust-jackets

## LATEST TITLES

THE WORLD BELOW  
by S. Fowler Wright

RESURGENT DUST by Rolf Garner

THE IMMORTALS by Rolf Garner

THE STARS ARE OURS  
by H. K. Bulmer

GALACTIC INTRIGUE  
by H. K. Bulmer

EMPIRE OF CHAOS  
by H. K. Bulmer

THE GREAT ONES  
by Jon J. Deegan

CORRIDORS OF TIME  
by Jon J. Deegan

BEYOND THE FOURTH DOOR  
by Jon J. Deegan

ANOTHER SPACE—ANOTHER TIME  
by H. J. Campbell

THE RED PLANET  
by H. J. Campbell

BRAIN ULTIMATE  
by H. J. Campbell

THE VENOM-SEEKERS  
by Bryan Berry

ATOMS IN ACTION by Roy Sheldon

HOUSE OF ENTROPY  
by Roy Sheldon

DIMENSION OF HORROR  
by S. J. Bounds

DARK ANDROMEDA by A. J. Merak

THE ECHOING WORLDS  
by Jonathan Burke

## PANTHER SPECIALS!

### Sprague de Camp's NEW Anthology

Six selected science fiction stories by this top-bracket American author, offered as a Panther special volume. A book to take a permanent place in your collection.

160 pp. Cloth-bound  
7/6 net

### TOMORROW'S UNIVERSE

This all-American anthology includes stories by A. E. Van Vogt, Charles L. Harness, Milton Lesser, Kris Neville and other science fiction celebrities.

224 pp. Cloth-bound  
8/6 net

Panther Books can be obtained from your usual bookseller. In case of difficulty, write direct to the publishers:

HAMILTON & CO. (STAFFORD) LTD.,  
1 & 2, Melville Court, Goldhawk Road, London, W.12



# it's best to be **SURE!**

Why leave your *Authentic* to chance, month after month, when it's so easy to make sure of your copy? As a subscriber you pay no more for your A.S.F., it is delivered promptly on publication—and *don't forget* that if you subscribe NOW, you will qualify to receive a copy of our SCIENCE FICTION HANDBOOK as a *free gift* when it is published later this year. *Authentic* now has top-line SF authors, more and better articles and features—a monthly "must" for all SF fans! Fill in this coupon and hand it to your newsagent today, or send it direct to the publishers:

HAMILTON & Co. (STAFFORD) LTD.

1 & 2 MELVILLE COURT, GOLDHAWK ROAD, LONDON W.12

Small stocks of *Authentic* Nos. 30 to 37 are still available.  
Indicate below, if you require any of these back numbers.

Please send me \*twelve/twenty-four issues of  
**AUTHENTIC SCIENCE FICTION**  
(published on the 15th of each month)  
commencing with issue No. ....

for which I { enclose 18/-, 36/-  
(including postage).  
agree to send postal order for  
1/6 (including postage) on  
each monthly delivery.

Numbers of back titles required.....

Name.....

Address.....

Price in Canada and the U.S.A. 35c.  
Overseas Subscribers should send remittance with order.

# FROM EARTH TO THE STARS!

*AUTHENTIC covers take you step by step from the first manned rocket to man's final conquest of interstellar space. Accurate, scientific, exciting! This is the way it will happen!*

## THIS MONTH'S COVER

is the fifth in our new series of documentary paintings. It shows the completed space station—Earth's first artificial satellite. This design was formulated by R. A. Smith and H. E. Ross of the British Interplanetary Society, who have kindly given us permission to base our painting on their elaborately worked-out plans.

The station consists of three principal parts: (1) the "bowl," a 200 ft. diameter parabolic mirror that focuses the Sun's rays onto a turbo-generator system; (2) the "bun," living quarters for a staff of twenty-four behind the mirror; and (3) the "arm," having at one end a chamber with two airlocks for egress and ingress, and at the other end an array of radio and television aerials.

Artificial gravity is induced in the living quarters by having the mirror and bun rotate once every seven seconds. Six electric gyros at the hub automatically rotate the mirror about a diameter once a year, to keep it facing the Sun. The arm does not normally rotate; it is gyro-stabilised to keep a constant position for radio beaming to Earth and spaceships. The arm is linked to the bun and rotated with it when a ship docks or when men pass between the chamber and the bun.

Power is supplied by eight turbo-generators which are operated by boiling mercury from pipes at the mirror's focus. The mirror will intercept 3,900 Kws. of solar energy, and it is calculated that about 1,000 Kws. of this will be available for use on the station.

Through the centre of the mirror projects a strobotelescope, invented by Smith and Ross. This is basically a coelostat with a system of external mirrors enabling the instrument to be sighted in any direction in the upper celestial hemisphere. The lower hemisphere is covered by another strobotelescope that forms the bearing of the arm.

Here, then, is Earth's first man-made moon. We are ready to begin our journey, and next month we will take you on a trip to Mars!